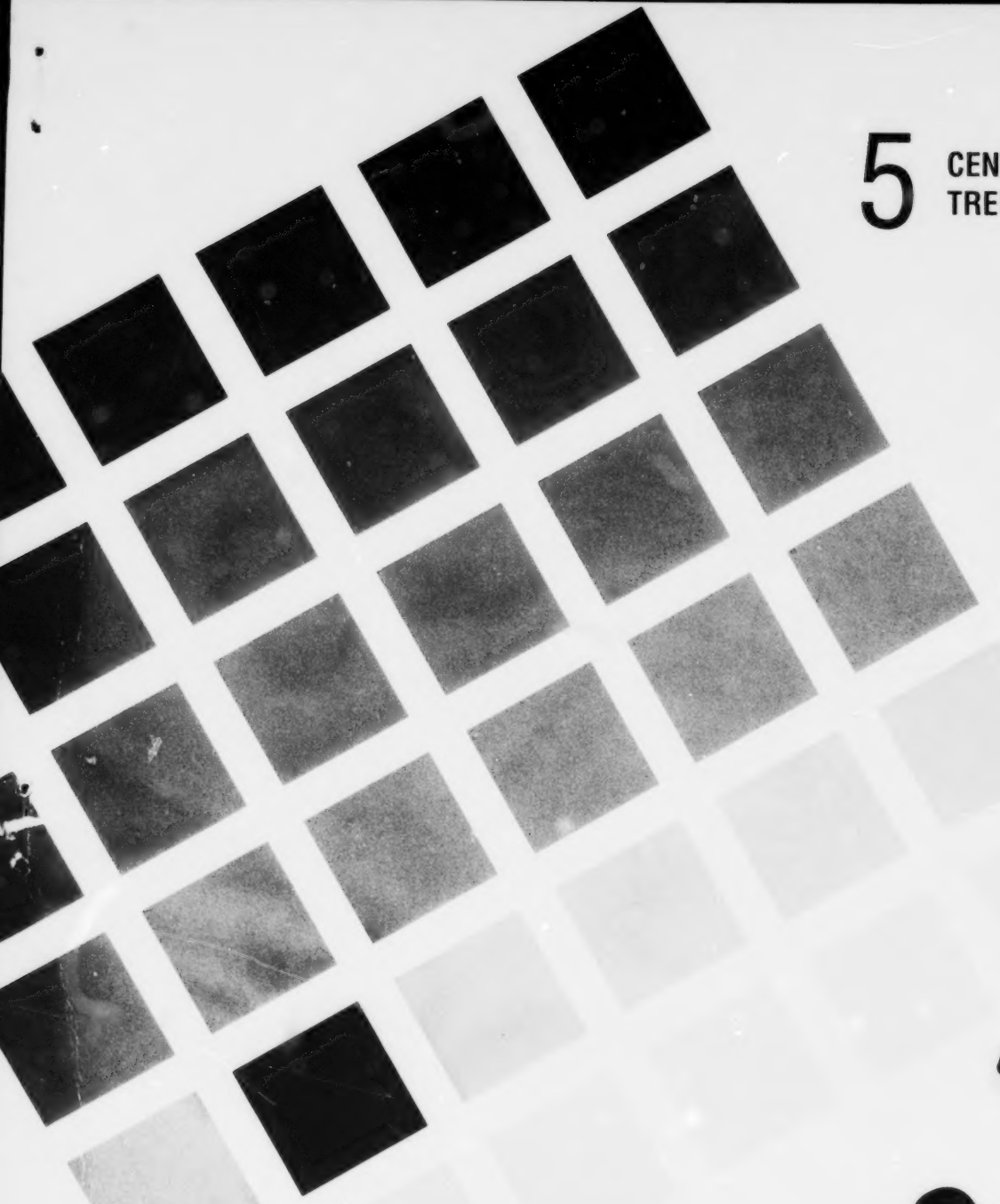

5 CENTRAL AREA TRENDS REPORT

Cityplan '91

City of Toronto
Planning & Development Department

Robert E. Millward
Commissioner

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CENTRAL AREA TRENDS REPORT

February 1990

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Department

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Commissioner

For further information please contact Steve Woodward or Tom Ostler, Policy and Strategic Planning Division, City of Toronto Planning and Development Department at 392-0068

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Executive Summary

When the 1976 Central Area Plan was approved, a monitoring program was set up to focus on changes in office development and housing production within the Central Area. The 1986 Quinquennial Review and the Living Room II reports documented changing social and economic conditions in the City and recommended broadening the monitoring program to include a larger number of indicators which impact on Official Plan policies in the Central Area. Recently a more holistic approach has been suggested which considers the relationships between indicators as well as changes in the indicators themselves. With the expiry of key elements of the 1976 Plan in 1991, the City has a unique opportunity to establish a new planning foundation for the 1990s which recognizes the significance of these changes.

To ensure that the Toronto of the future will continue to be a desirable place to live, it will be necessary to develop Official Plan policies which are responsive to the changing urban environment and which are flexible enough to accommodate these changes. As the City evolves over time, and as more information becomes available, assumptions may have to be altered, policy revised and planning priorities restructured. In developing Official Plan policies which will be able to accommodate change in the City it will be necessary to establish a monitoring program which tracks the trends in a large number of variables and which also addresses the changing nature of the relationship between indicators in order to evaluate the extent to which City policies are achieved.

Although policy directions for the 1991 Plan are still being developed, recent experience indicates that there are a number of indicators which should be reviewed on an ongoing basis. The relationship between people living downtown and working downtown is one such factor which has emerged as an important cornerstone of the 1991 planning exercise and has implications for transportation, housing and office development policies. Included in this report is a discussion of the development of the regional office market, office development activity within the Central Core, changes in regional population, employment and labour force characteristics and trends in Central Area transportation system usage. Some of the major findings of this monitoring exercise include:

- In June 1989 the total supply of office space in the Toronto Region was 10.7 million square metres compared to 5.0 million square metres in 1976.
- In 1966, the Central Area accounted for 76 percent of all existing office space in the Region. In 1976 the corresponding figure was 68 percent and in June 1989 this had decreased to 49 percent.

- Between 1986 and 1988 average annual levels of absorption of 220 000 square metres in the Central Area and 450 000 square metres in the Rest of the Region were considerably higher than long run absorption rates for these areas which over a 20 year period averaged 145 000 square metres and 151 000 square metres respectively.
- Office vacancy rates have increased slightly in the past several years to 5.3 percent in the Central Area and 9.5 percent in the Rest of the Region.
- While the Central Area remains the premier location for office space within the Region the amount of office space in Office Parks, which place greater emphasis on automobile commuting, is increasing at a greater rate.
- As of October 31, 1989 there was 6.1 million square metres of existing office space in the Central Core. With more than 650 000 square metres of space under construction and an additional 437 931 square metres in the approvals stage it is highly likely that the 1991 Review Limit of 7.0 million square metres will be surpassed prior to 1991. In 1976 there was 4.9 million square metres of office space built or under construction in the Core.
- The Floor Space per Worker (FSW) ratio for the Central Core has reached a plateau at approximately 25 square metres per employee.
- In contrast to the period of population decline in the ten years following 1971, the City of Toronto experienced a population increase of 13,000 between 1981 and 1986, reaching a total of 611,000 people.
- While the population in outer City neighbourhoods decreased between 1976 and 1986, the Central Area population increased by 19,468 representing a 17 percent increase.
- The Toronto CMA labour force is the single largest labour pool in Canada at 1.9 million people.
- In 1988, unemployment rates of 3.7 percent for the CMA and 4.1 percent for the City were considerably lower than the national average of 7.8 percent.
- While male labour force participation rates have remained stable, at approximately 78 percent in the City and 81 percent in the CMA, between 1976 and 1988, female participation rates have increased in the City from 55 percent to 61 percent and in the CMA from 53 percent to 63 percent.
- Between 1976 and 1988 the number of managers living in the City increased by 71 percent. In 1988 fully 40 percent of the resident labour force was employed in a managerial occupation.
- In 1988, 45 percent of the City's resident labour force was employed in the Community, Business and Personal Services sector. This was an increase of 42 percent since 1976.
- Employment levels in the City have steadily increased since the recession, from 491,896 people in 1983 to 576,040 people in 1988.

- Between 1985 and 1988 employment increases in the Office sector accounted for more than 75 percent of the growth in total employment in the City.
- Cordon Count data for the 1975 to 1988 period indicate a change in the modal split of all person trips entering the Central Area Cordon from 60 percent mass transit to 65 percent mass transit over the three hour peak period.
- While GO Transit ridership has increased by 178 percent between 1975 and 1988 the largest number of inbound commuters still travel into the Central Area Cordon by subway.

The relationship between a number of these variables is then discussed within the context of the 1991 Central Area Plan review. The transportation, office development, housing relationship as presented by Dr. David Nowlan at the "Forum on the Future of the City of Toronto" is introduced and explored as far as current data sources allow. Using regression techniques to estimate the impact that office development and housing construction in the Central Area has on inbound commuting levels, it has been suggested that increases in occupied floor space will increase inbound traffic at a rate of 0.04 trips per square metre while each dwelling unit added to the Central Area housing stock will reduce inbound commuting levels by 1.2 trips. Dr. Nowlan applied these empirically derived relationships to determine that an annual rate of 3,400 new housing units would need to be built in the Central Area to hold inbound trip levels to their current levels if the amount of occupied floor space is forecast to increase to 8.0 million square metres by 2011. Other combinations of housing and office floor space production can be similarly assessed in terms of their impacts on peak period travel demands into the Central Area.

The relationship between housing, traffic congestion, transportation improvements and office development discussed here is an example of the manner in which the new approach to monitoring may be used to develop policy. If maintaining the level of inbound traffic at its current state is established as a goal and the level of housing production falls short of 3,400 units a year while the office forecasts are achieved, then other measures such as encouraging an increase in the number of people travelling by transit will have to be pursued. Of course, improving the quality of public transit, and by implication, the capacity of the transit system in order to affect the modal split could represent a parallel goal in addition to maintaining inbound commuting at a constant level.

The discussion of the transportation, housing, office development relationship is also useful in helping to define an holistic approach to planning in the City. Such an approach must address the environmental concerns and the social service needs which would result from changing social and economic conditions in the Central Area. Defining a monitoring framework for the future which addresses these concerns will hinge upon identifying relationships between the economic realities of office and residential development in the Central Area and the environmental and social costs of such development. It is clear that monitoring changes in the relationships between these indicators is as important as monitoring changes in the indicators themselves.

1

Background

The City of Toronto's Official Plan requires the regular monitoring of a number of key indicators respecting transportation, employment and land use in the City. Recent recommendations arising out of the 1986 Quinquennial Review of the Plan (QQR) and the Downtown Employment Study (DES, 1986), however, expanded the list of trends to be tracked on an annual basis to include a broader range of social and economic variables which impact on Official Plan policies in the Central Area. The monitoring of employment trends and transportation concerns has been expanded in this report to include a review of the regional office market and the tracking of demographic and labour force trends within the Central Area.

Between 1976 and 1986 social and economic conditions in the Central Area changed quite dramatically. Gentrification of inner city neighbourhoods removed rental units affordable to low and moderate income households and family housing increased in price beyond the reach of most families with 'average' incomes. The decline of manufacturing employment, evident prior to 1976, continued while the number of office employees increased considerably. While the residential and employment character of the Central Area evolved, continued suburban development provided housing for a growing number of communities and employment opportunities in suburban locations flourished.

At the same time, the very nature of work changed considerably with technological innovation in both production and office settings impacting on the local labour force. The retail sector became increasingly dominated by part-time employment and many office workers, particularly those in routine clerical positions, found their jobs relocated to suburban locations just as those working in manufacturing had previously. Indeed, as Business and Financial Services grew rapidly after 1976, by 1986 it was possible to see the growing dominance of those two sectors in the local economy – an economy driven by the management of capital and related services.

Although the gradual evolution towards an information based service economy was largely responsible for restructuring the Central Area employment pattern, the single most significant event affecting the local economy during the early 1980s was the reces-

sion. Between 1981 and 1983, an economic recession, the outfall of a number of changes in the global economy, resulted in a period of high unemployment and high inflation which could not have been predicted in 1976. In fact, between 1981 and 1982 total employment in the Central Area actually declined significantly. However, a strong local economy, largely driven by office sector growth, responded quickly to a favourable economic climate which developed in the post recession period. As a result, the recovery period was quite short and employment levels in the City and the Central Area quickly surpassed pre-recession levels.

Against this broad backdrop of change, the 1986 QQR and Living Room II reports recognized that the existing monitoring program was too narrow and recommended a broadening of the indicators to be measured. There was a clear recognition that monitoring was central to policy development. Tracking a wider range of indicators would enhance strategic policy development by providing the opportunity to revise assumptions and alter policy as the social and economic environment changed.

In addition, however, the Downtown Employment Study Steering Committee was established to oversee the work of a number of consultants whose terms of reference broadly involved examining the various aspects of economic change in the City but with special reference to the impacts of technology. A number of additional recommendations for an expanded monitoring program were adopted by the Steering Committee in April 1988.

The expansion of the number of indicators has led to a monitoring program which includes not only an examination of housing and office construction and rents, but also the following:

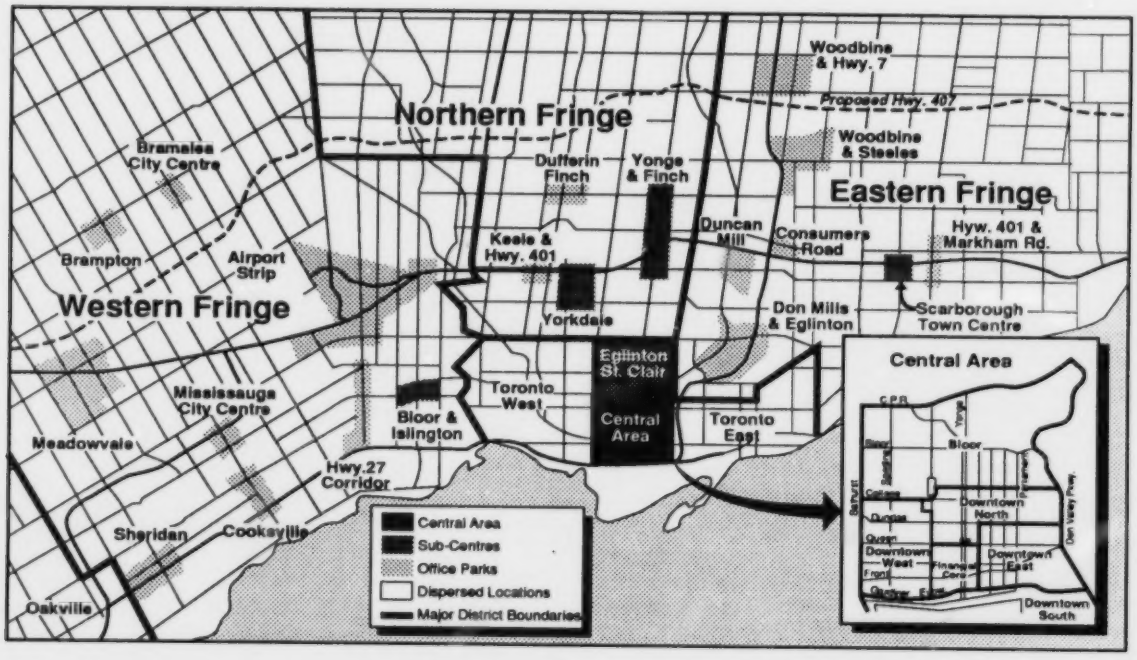
1) Labour force and employment change including occupational and industrial restructuring.
2) Office market dynamics including supply, absorption and vacancy rates.
3) Transportation impacts including modal split and cordon counts.
4) Changing technology in the office workplace including the development of intelligent buildings and changes in the telecommunications industry.
5) Changing regulatory policy as it affects industries in the City.

Monitoring office construction and rents on an annual basis is relatively straightforward, however, regular monitoring of a number of the additional indicators presents some problems.For example, employment data reported in the 1986 Quinquennial Review derive from two main sources; 1) the Employment Land Use and Assessment Databank (ELA) maintained by the Metro Toronto Planning Department; and 2) the Census of Canada.The ELA data are based on an annual Metro-wide survey of business establishments. These data are available each year and as such can be readily incorporated into the Planning and Development Department's new annual reporting structure. Census

data, however, are available only every five years and as such limit the extent to which trends in, for example, the 'information economy' or the process of occupational and industrial restructuring can be traced. On the other hand, the Labour Force Survey collected by Statistics Canada offers an alternative source of employment data which can be used to track certain aspects of change on a quarterly basis during the inter-censal periods.These data include estimates of unemployment, employment by occupation and industry, part-time and full-time employment, participation rates by sex, etc.– all for the City, Metro and the Census Metropolitan Area (CMA) levels of spatial aggregation. While the size of the sample in the City of Toronto is limited and subject to some variance due to sampling error, the regularity yields an indication of the direction, and some idea of the magnitude, of labour force change.

Problems associated with monitoring other aspects of change, as recommended in the 1986 QQR and the Downtown Employment Studies are reviewed in the body of this report. To the extent that useful alternative data sources for the problem areas could be found, they are also discussed in the report.

Map 1
Toronto Office Market Areas



2

The Regional Office Market

The office sector is the predominant employment sector within Metropolitan Toronto. Well over one-half million people in Metro work in office settings – some 44 percent of all employment in Metro. Given the office sector's dominance of the regional employment structure and the fact that it imposes the single largest influence on peak-period travel behaviour in the Region, the location of new office employment and the space to accommodate it is a central concern in the planning and management of growth in Metro and the City. In line with this, both the City of Toronto and Metro Toronto's Official Plans include principles which are designed to encourage the deconcentration of office development and to ensure that employment and travel patterns within the Region are distributed in a relatively balanced manner.

In the City of Toronto, the Official Plan contains policies which attempt to control the rate of Central Area office development in relation to the capacity of the existing transportation system. Metro's Official Plan includes policies which encourage the development of employment sub-centres in Etobicoke, North York, and Scarborough.

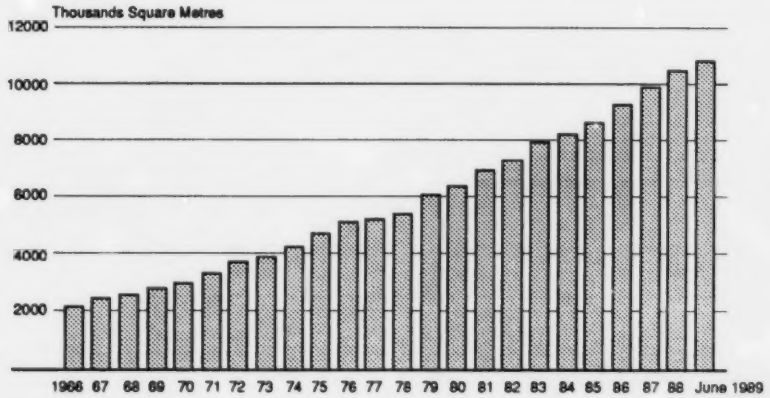
2.1 Supply and Demand

The Toronto region office market is the largest in Canada and one of the ten largest in North America. Map 1 illustrates the geographic extent of the Toronto region office market and indicates the district boundaries used by Royal LePage to report survey data. In December 1988 the estimated supply of office space in the Toronto Region totalled 10.3 million square metres.[1] Additions to the regional office stock during the first six months of 1989 have increased the total amount of office floor space to approximately 10.7 million square metres. This compares to a base of roughly 2 million square metres in 1966, representing an average of 372 000 square metres in new additions to the stock each year over the 1966 to 1988 period (Figure 1). During the past several years the annual supply of new office space has been considerably higher than this long run average.[2] Between 1986 and 1988 the average annual increase in regional office space

[1] The office space figures discussed in this section are derived from the Royal LePage office space databank.

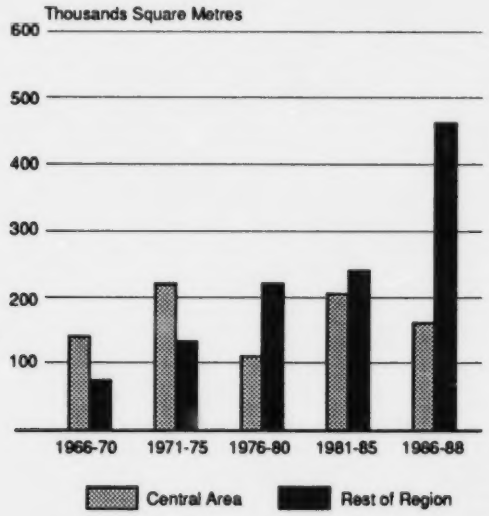
[2] To some extent the increase in annual supply may be partly explained by recent changes by Royal LePage in the manner in which buildings are included for analysis. These changes may have somewhat inflated recent office market figures.

Figure 1
Growth of Office Space
Toronto Region, 1966 – 1989



Source: Royal LePage

Figure 2
Average Annual Growth of Office Space
Toronto Region



Source: Royal LePage

has been greater than 600 000 square metres. During the first six months of 1989 an additional 319 000 square metres was added to the regional total (82 000 square metres in the Central Area and 237 000 square metres in the Rest of the Region).

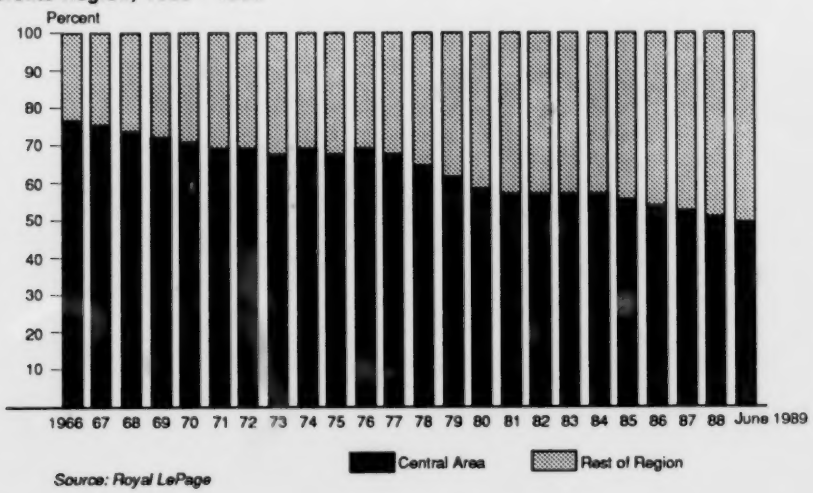
A goal of encouraging the deconcentration of office development is to ensure, among other things, that office employment and travel patterns within the Region are distributed in a relatively balanced manner.The degree to which office decentralization has been achieved can be inferred from an examination of the changing regional distribution of office space. In 1966, 76 percent of the Regional Office space was located in buildings situated within the Central Area. Rapid levels of office space construction in the rest of the region have significantly reduced the Central Area focus of the Toronto Region Office Market. Since 1976, office space growth beyond the Central Area has continually outpaced growth in the Central Area averaging 281 000 square metres per year compared with 156 000 square metres respectively (Figure 2).The June 1989 (hereafter 1989) figures indicate a continuation of this trend as almost 240 000 square metres of office space was completed in locations outside the Central Area in the first six months of the year as compared to roughly 80 000 square metres in the Central Area. The change in the regional distribution of office space reflects the extent to which new office construction has been deflected to locations outside the Central Area with the result that by 1989 fully 51.0 percent of Regional office space was located in non Central Area locations (Figure 3). Between 1976 and 1989 the amount of office space outside the Central Area increased from 1.6 to 5.4 million square metres.

2.2 Office Space Absorption

The demand for office space is measured through annual changes in the total amount of occupied floor space (the absorption rate) recorded in Royal LePage's annual surveys. With more than one thousand buildings regularly surveyed by Royal LePage, their survey is one of the most reliable and comprehensive indicators of market performance over time. The absorption rate is closely related to changes in employment and therefore offers a useful tool for predicting the potential transportation impacts arising from changes in the level of occupied floor space.

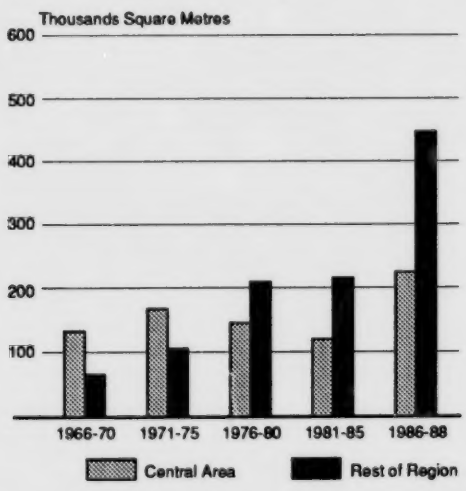
Figure 4 illustrates the average levels of absorption for five-year periods from 1966 to 1985 plus average rates for 1986, 1987 and 1988 for the Central Area and the Rest of the Region.For the Region as a whole, between 1976 and 1980 absorption averaged 357 000 square metres per year.This was followed by a period of moderately lower demand, averaging 341 000 square metres per year between 1981 and 1985. Over the past three years strong demand for office space in both the Central Area (220 000 square metres) and the Rest of the Region (450 000 square metres) has dramatically increased the rate of absorption for the entire Toronto Region office market to 670 000 square metres annually.

Figure 3
Share of Office Space
Toronto Region, 1966 – 1989



Source: Royal LePage

Figure 4
Average Annual Absorption
Toronto Region



Source: Royal LePage

Relatively moderate levels of office space demand in the Central Area during the early 1980's (123 000 square metres per year) increased considerably after 1985. In fact, average annual absorption during the 1986-1988 period was considerably higher than during any earlier period. Peaking in 1987 at 358 000 square metres the level of absorption in the Central Area returned to pre-1985 levels in 1988 at 109 000 square metres. During the first six months of 1989 only 14 000 square metres of office space had been absorbed in the Central Area. While the 1989 year-end absorption will provide a more accurate account of current trends in the demand for Central Area office space, a number of major projects currently under construction (totalling almost 722 000 square metres) will not be reflected in demand figures until 1990 or even 1991.

In office markets outside the Central Area, continued increases in demand saw absorption reach a record 497 000 square metres in 1987 dropping slightly to 491 000 square metres in 1988. Continuing demand for office space beyond the Central Area is reflected by the fact that 345 900 square metres of office space was absorbed in non Central Area locations during the first six months of 1989.

While a strong national and local economy seems to have had the effect of increasing the demand for Central Area office locations, a major shift in demand to non Central Area office locations is evident.The continuing strong demand for office space outside the Central Area may be attributed to a number of factors including:

1) the continued suburbanization of many office functions;
2) improved access to new suburban markets;
3) generally lower rental rates outside the Central Area; and
4) a more favourable location relative to the large labour force.

Combined these factors have resulted in high absorption levels outside the Central Area.

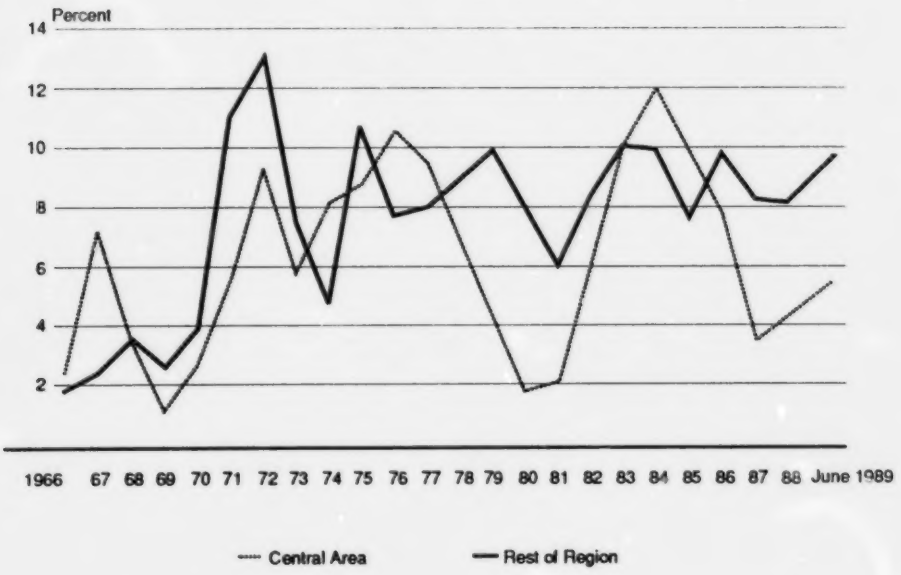
2.3 Vacancy Rates

A strong local economy has contributed to the establishment of a healthy regional office market in the Toronto area. Vacancy rates of 5.3 percent in the Central Area and 9.5 percent in the Rest of the Region are indicative of strong demand for office space within the Toronto Region. Since 1976 vacancy rates have fluctuated between 2 and 12 percent in the Central Area and between 6 and 10 percent in the Rest of the Region (Figure 5).

Recently, the Central Area vacancy rate has increased slightly from a virtually 'sold out' position in 1987 to its current level.Between 1985 and 1987 record levels of absorption

exceeded the amount of new office space coming on stream and resulted in a situation in which demand for space was satisfied largely through the take-up of existing, rather than new, office space. Since 1987, levels of absorption lower than the level of supply of office space in the Central Area have contributed to an increase in the vacancy rate. Similarly, comparatively high levels of completions outside the Central Area, particularly since 1986, have helped keep vacancy rates noticeably higher in the Rest of the Region.

Figure 5
Vacancy Rates
Toronto Region 1966 – 1989



Source: Royal LePage

2.4 The Regional Distribution of Growth

While the City has maintained its position as the primary office location in the Region, areas beyond the Central Area have emerged as strong alternative office locations since 1976. As already mentioned, in 1989, fully 51 percent of the regional supply of office space was located outside the Central Area.

Using Royal LePage data, the following section examines patterns of office growth in four broad areas:

a) Central Area
b) Office Sub-Centres – office nodes, with access to rapid transit (subway or LRT)
c) Office Parks – office nodes accessible primarily by automobile
d) Dispersed Locations.

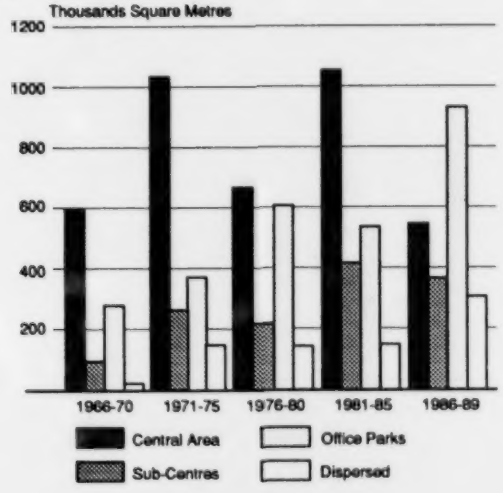
Table 1 summarizes key office space statistics by location as of June 1989 while figures 6 and 7 graphically depict office space construction during five year periods between 1966 and 1989.

Table 1
Current Distribution of Office Space by Location
June 1989
(square metres)

Location	# Bldgs.	Total Office Space	% Share	Vacant Office Space	% Share	Vacancy Rate %
Central Area	345	5 224 979	49.0	279 041	35.2	5.3
Sub-Centres	149	1 664 961	15.6	61 208	7.7	3.7
Office Parks	334	2 872 861	26.9	359 646	45.3	12.5
Dispersed	181	900 454	8.4	93 788	11.8	10.4
Regional Total	**1,009**	**10 663 255**	**100.0**	**793 684**	**100.0**	**7.4**
Distribution within Region						
Transit-Oriented	494	6 889 940	64.6	340 249	42.9	4.9
Auto-Oriented	515	3 773 315	35.4	453 434	57.1	12.0
Regional Total	**1,009**	**10 663 255**	**100.0**	**793 684**	**100.0**	**7.4**
Distribution outside the Central Area						
Transit-Oriented	149	1 664 961	30.6	61 208	11.9	3.7
Auto-Oriented	515	3 773 315	69.4	453 434	88.1	12.0
Total	**664**	**5 438 276**	**100.0**	**514 642**	**100.0**	**9.5**

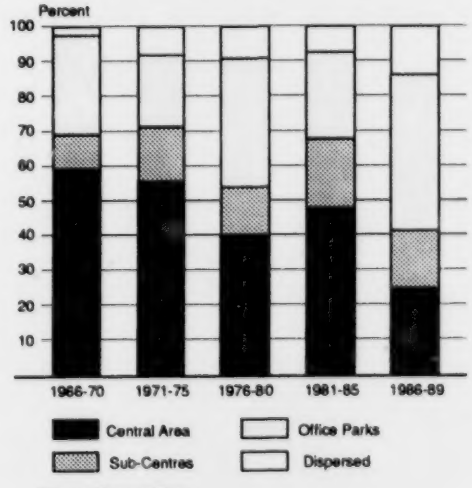
Source: Royal LePage Ltd.

Figure 6
New Office Construction by Location
1966 – June 1989



Source: Royal LePage

Figure 7
Share of New Office Construction by Location
1966 – June 1989



Source: Royal LePage

2.4.1 Central Area

The Central Area remains the premier location for office space in the Region, although its proportion in 1989 represented less than one-half of the Regional stock (according to Royal LePage surveys). Between 1976 and 1985, roughly 1.7 million square metres (18.4 million square feet) of office space was built in the Central Area. Since 1985, an additional 552 000 square metres of space was built in the Central Area – 25.6 percent of all office completions in the Region between 1985 and 1989.

In 1986 and 1987 levels of demand for office space were quite high, totalling 212 000 square metres in 1986 and 358 000 square metres in 1987. These two years represented the highest annual levels of demand on record. In 1988, however, absorption dropped significantly to 109 000 square metres. Absorption in 1987 reflected in part the leasing of existing vacant space as the vacancy rate was halved from 7.8 percent to 3.5 percent. During 1988 absorption was more directly tied to the completion of new space as the vacancy rate climbed slightly to 4.4 percent. During 1989 this pattern has continued as the vacancy rate exhibited a further slight increase to 5.3 percent.

2.4.2 Office Sub-Centres

Office sub-centres are defined as office nodes located in close proximity to rapid transit, either the subway or LRT, and include Bloor-Islington, Yonge-Eglinton, Scarborough Town Centre, Yonge-St. Clair, Yonge-Finch (North York City Centre), Yonge-Hwy 401 and Yorkdale. In 1989 roughly 1.7 million square metres of office space was located in office sub-centres. This compares with 1.3 million square metres in 1980. Roughly 16 percent of the Region's supply of office space is located in sub-centres.

By June 1989, strong average annual absorption (119 000 square metres between 1985 and 1988) in sub-centre locations had reduced the vacancy rate from 5 percent to 3.7 percent, the lowest of the four types of office concentrations.

Over the 1985 – 1989 period all sub-centre locations grew in size, however, the most recent growth has occurred in the Yonge-Hwy 401 and Yonge-Eglinton sub-centres growing by 174 000 and 59 300 square metres respectively during this period.

2.4.3 Office Parks

By far, the largest proportion of office space outside the Central Area is found in Office Parks. In 1989 a total of 2.9 million square metres of office space was located in 16 suburban office parks constituting 27 percent of the Regional office supply compared with 23 percent in 1985. In fact, since 1985 roughly 940 000 square metres have been added to the office park inventory, indicating a renewed interest in such locations for office development.

While the Don Valley corridor contains the largest proportion of office park space, more recent growth seems to be focused in office parks in the west end of Metro and beyond. The most significant growth has been occurring in the Airport Strip, Meadowvale (401 and Erin Mills Parkway) and the Mississauga City Centre office parks.

2.4.4 Dispersed Locations

Dispersed locations accounted for roughly 900 000 square metres of office space in 1989 – a little more than 8 percent of the Regional supply. The vacancy rate for office space in dispersed locations was the highest of all office concentrations in 1986 at 12.2 percent. Due to absorption outstripping new construction, vacancy rates in dispersed locations dropped to a low of 5.1 percent in 1987 before rebounding to 10.4 percent in 1989.

2.5 Office Space Lease Rates

Office space lease rates within the Toronto Region fluctuate considerably by area and between building types. In June 1989 the average gross lease rate for Central Area office space was estimated to be $410.00 per square metre. This compared to average rental rates of $312.00, $226.00 and $194.00 per square metre in Sub-Centres, Office Parks and Dispersed locations respectively. However, these average asking rents for the different office concentrations partly obscure the fact that there is considerable variation even within each type of concentration. In fact, Royal LePage reported a range of gross lease rates for office space in the Central Area ranging from $137.00 per square metre (for class C buildings in the King West district) to $513.00 per square metre (for class A buildings in the Financial Core). Similar variations in gross lease rates exist in the other office concentrations throughout the Toronto Region.

2.6 Summary

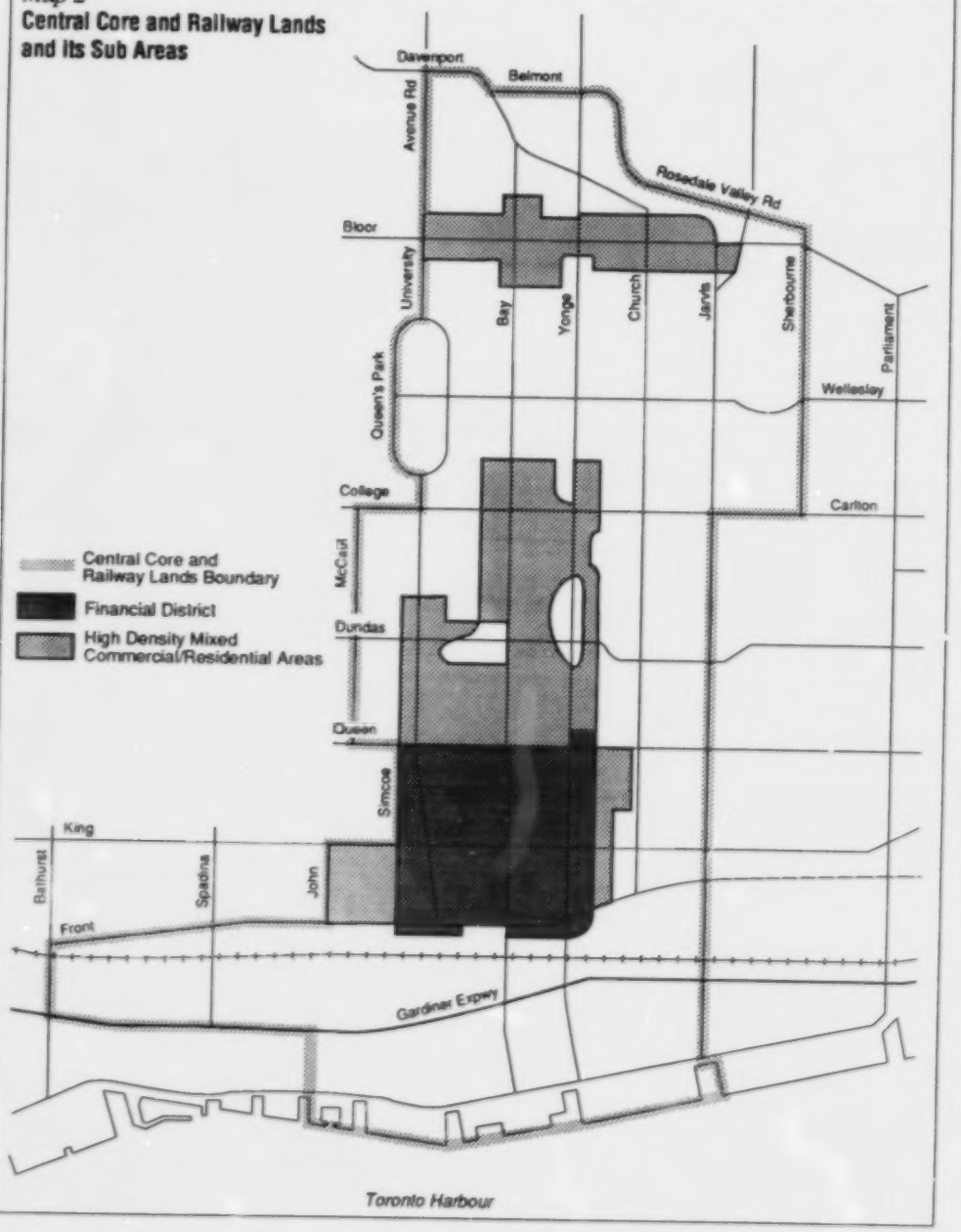
Since 1976 the Central Area's share of total office space in the Toronto Region has dropped from 70 percent to 49 percent. Downtown Toronto, still the pre-eminent concentration of office activities, now represents less than one-half of the total supply of office space throughout the Region. However, the Central Area remains the premier location for prestige office space as evidenced by the strong demand reflected recently in absorption rates well above the long run average and in higher gross lease rates.

Over the same period, the non Central Area share of the regional office market grew from 30 percent to 51 percent. Since 1976 the 'Toronto Office Market' has developed as much more of a regional market, with new and foreign firms being attracted to the Toronto Region but no longer being limited to the choices offered downtown. The policies of deconcentration from the 1970's, combined with other factors such as the suburbanization of office functions, generally lower rental rates outside the Central Area,

better access to the large suburban labour force and suburban markets, the increased supply of office space in non Central Area locations and the planning and promotional efforts of suburban municipalities have contributed to the decentralization of office development and employment. Although office space constructed since 1976 has been distributed throughout the Toronto Region the deconcentration objectives of the 1970's have only been partially realized. The establishment of suburban office centres as transit oriented alternative locations to the Central Area has not prevented the greatest percentage of office space constructed outside the Central Area being located in auto oriented office parks. However, strong demand for office space in transit oriented subcentres has resulted in a situation in which the 1989 vacancy rate for Office Sub-Centres is lower than the vacancy rate of any other office concentration.

Map 2

Central Core and Railway Lands and its Sub Areas



3

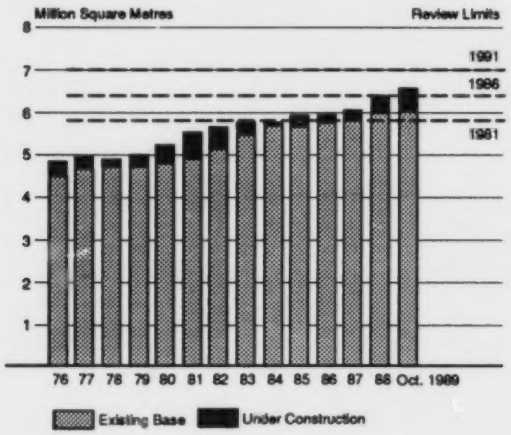
Office Development Trends in the Central Core

The 1976 Official Plan for the City of Toronto had an objective of limiting the concentration of office space in the Central Core (Map 2) and encouraging its deconcentration to suburban office sub-centres. Review limits were established to ensure that the growth of office space in the Central Core remained consistent with these Official Plan policies. The purpose behind these limits was to trigger a review of Official Plan policies should any limit be reached prior to the target date. The review limits of 5.8 million square metres by 1981, 6.4 million square metres by 1986, and 7.0 million square metres by 1991 refer to the amount of office space built and under construction within the Central Core. Figure 8 shows that the 1981 Review Limit was not surpassed until 1984, and, as of year-end 1988, we had just reached the 1986 Review Limit. However, as Table 2 illustrates, the amount of office space given Council approval in recent years has far surpassed the long run average. If all projects which were given approval during the past several years were to proceed to construction the review limit of 7.0 million square metres would be surpassed before 1991.

3.1 Approaching the 1991 Review Limit

Figure 9 compares office development activity in the Central Core as of year end 1976 with the situation as of October 31, 1989.During this period the amount of office space in each stage of development has increased.The built stock has increased from 4.5 million square metres to 6.1 million square metres while the amount of space under construction has increased from 363 115 square metres to 658 137 square metres. Similarly the amount of floor space in projects which have received building permit approvals, the amount of space in projects with approvals of Official Plan Amendments, Rezonings, or Development Agreements and the amount of floor space in Outstanding Applications have all increased.

Figure 8
Trends in Office Development
Central Core, 1976 – October 1989



Source: City of Toronto, Land Use Information System

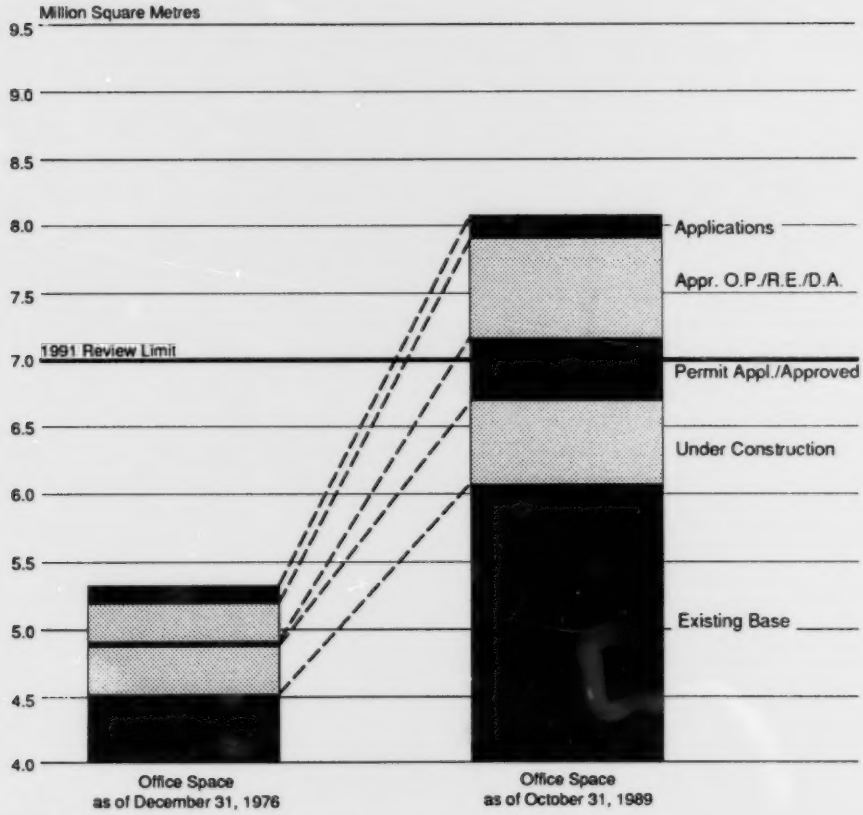
Table 2
Central Core Office Trends, 1976 – 1988
(square metres)

Year End	Applications	Approvals	Starts	Completions	Absorption	Vacancy Rate
1976	146 625	8 110	279 249	249 351	165 362	10.40
1977	192 215	307 631	16 139	194 107	216 457	9.50
1978	174 501	112 772	90 720	17 456	154 214	6.60
1979	254 954	187 216	18 546	42 413	149 569	4.20
1980	291 021	184 572	289 466	63 575	177 439	1.80
1981	298 178	346 208	293 894	70 003	49 237	2.10
1982	452 843	222 902	231 615	283 747	116 125	5.30
1983	124 720	27 399	162 681	298 345	35 302	9.80
1984	249 867	370 964	56 953	242 759	91 971	12.00
1985	276 937	201 477	110 601	-2 828	119 841	9.90
1986	208 357	213 547	216 337	67 813	180 226	7.80
1987	524 500	373 891	61 095	79 163	312 144	3.50
1988	675 947	468 778	343 387	157 439	111 480	4.43
Long Run Average	297 743	232 728	166 976	135 642	144 567	6.72
Last 5 yrs Average	387 122	325 731	157 675	108 869	163 132	7.53

Source: City of Toronto Land Use Information System

The current state of office development within the Central Core suggests that it is likely that the 1991 review limit will be reached prior to 1991, perhaps as early as the beginning of 1990. In fact, the amount of office space built or under construction in October 1989 was only 275 321 square metres below the review limit. The addition of the 437 931 square metres of floor space which has already received building permit approvals would push development activity in the Central Core beyond the 1991 review limit.

Figure 9
The Stock of Office Space
Central Core



Source: City of Toronto Land Use Information System

Note: The 1991 Review Limit pertains to the existing base plus all projects currently under construction

3.2 Office Space Trends in the Priority Areas of the Central Core

The Official Plan identifies the Financial District as being the first priority location for new office development followed by the High Density Mixed Commercial-Residential districts (HDMCR).As of October 31, 1989 there was approximately 2.7 million square metres of office space in the Financial District, with an additional 435 373 square metres under construction and 212 458 square metres approved for future development pending Development Review.There are only 4 outstanding applications for development in the Financial District, totalling 128 223 square metres.While the Financial District remains the primary office concentration, accounting for 44 percent of Central Core office space, there are fewer and fewer developable parcels of land remaining within this area.The decrease in the number of land parcels available for development is likely to encourage further development within other parts of the Core Area in the next few years.

This expected shift of development activity will initially take the form of pursuing long-standing interests in the HDMCR districts (CBC Block, Eaton Centre, College Park, and the Metro Hall projects) as well as in the Central Bayfront area (World Trade Centre and Waterpark Place).The 563 683 square metres of floor space in the approvals stage within the HDMCR area suggests that the shift has already begun.In the long run, development in the eastern portion of the Railway Lands is expected to effectively become an extension of the Financial District in terms of use, built form and business occupancies.

3.3 Office Space Utilization in the Central Core

Floor Space per Worker (FSW) ratios are used to measure the degree to which commercial buildings are utilized through a comparison of the occupied gross floor space to the total number of office employees in each building. The FSW index, the ratio of the total occupied office floor space to the total office employment for a given area, may then be used to estimate the potential employment impacts of commercial development proposals for that area in the same manner that one might use average household size to estimate the population impacts of new residential development.

The Official Plan limits on office development were set in such a way as to take account of the existing and committed capacity of the transportation system and the additional employment new office development would generate. In the context of the 1976 Central Area Plan, the FSW was clearly an important variable in that equation as it was used to determine an office floor space limit based upon the capacity of the existing transportation network.

The FSW ratio is also important when estimating the marginal employment impacts of new office development. This method consists of dividing known development potential, adjusted to account for vacancies, by the FSW index to obtain an employment estimate. Monitoring the FSW index is important because employment forecasts are highly sensitive to changes in the FSW value. Small changes in the FSW index can have a significant impact on employment estimates which are then used to assess the transportation requirements of proposed developments.

Prior to 1983 the calculation of the FSW index relied upon the undertaking of a survey of a sample of office buildings within the Central Core. Difficulties and inconsistencies associated with the survey procedure resulted in the development of a model by Planning and Development staff which could be used to estimate FSW ratios on an annual basis from existing data sources. The 1986 Quinquennial Review Background Paper No. 5 provided an alternative method for estimating FSW ratios. This procedure has been used to generate the FSW ratio since 1983 (Table 3).

3.3.1 The Organization of Office Space

The Quinquennial Review noted that over the years, the manner in which firms occupy and organize their working environment has changed quite dramatically and that a number of factors come together in an explanation of FSW change over time. Among the factors affecting the FSW ratio currently are organizational and technological change and the development of the office landscaping concept. Office landscaping which is characterized by large open floor plates and moveable partitions was promoted as a means of improving efficiency, communications and flexibility in the office environment and led to greater allocations of office space per worker.

With the increasing use of computer and telecommunications technologies, larger floor plates and higher floor-to-ceiling heights, the "intelligent building" concept is now taking hold. With widespread productivity improvements being attempted in the office sector through the use of new technologies, has come a need to again rethink the manner in which office space is organized and utilized. New computer and telecommunications technologies which have space requirements of their own are being used increasingly by professional and managerial staff who are at the same time more extensive users of office space. In the meantime, shifting corporate and organizational philosophies are placing more emphasis on appropriate conference spaces and communal work areas. In some circumstances the changing organization of office space has put upward pressure on FSW ratios while in other situations changing technology may in fact be responsible for a reduction in the average FSW. Sub–study No.1 of the Downtown Employment Studies estimated that over the 1970 to 1985 period, 29 percent of the demand for office space was attributable to a rising FSW ratio.However, a stable FSW ratio during the 1980s suggests that the growth in occupied office space has been accompanied by a comparable increase in office employment.

Table 3
Trends in Floor Space per Worker Ratios, 1960 – 1988

Year	Source	Sample	Area	FSW Gross* (sq. m)
1960	City of Toronto Planning Board	4,800 firms	Downtown Planning District	19.2
1970	Metro Planning Employment Survey	38 bldgs.	Central Core	21.5
1971/72	Dr. G.H.K.Gad U of T	425 firms	Central Corridor	21.4
1975	IBI Group	51 firms	Central Core	22.9
1980	City of Toronto Planning and Development	265 bldgs.	Central Core	25.0
1983	City of Toronto Planning and Development	152 bldgs.	Central Core	25.0
1984	City of Toronto Planning and Development	162 bldgs.	Central Core	26.2
1985	City of Toronto Planning and Development	161 bldgs.	Central Core	26.0
1986	City of Toronto Planning and Development	167 bldgs.	Central Core	25.5
1987	City of Toronto Planning and Development	170 bldgs.	Central Core	25.0
1988	City of Toronto Planning and Development	166 bldgs.	Central Core	25.2

* Gross square metres of occupied building area

3.3.2 Trends in Floor Space Per Worker Ratios

Table 3 summarizes the estimates of the FSW index since 1960.The method used by Planning and Development staff since 1983 is described below:

Data Sources:

- City of Toronto Land Use Information System (for gross floor space devoted to office use)
- Metropolitan Toronto Planning Department Employment Land Use & Assessment (E.L.A.) Databank (for total office employment in each building)
- Royal LePage Commercial Real Estate Services (for total net rentable floor space and vacant floor space as of June in each year in each building; by special arrangement)

Method:

- Data from these sources were merged together to form a large sample of buildings for which all of the above variables are reliable
- The amount of vacant net rentable office space in each building as a proportion of the total net rentable space represents a vacancy rate for each building
- The Total Office Gross Floor Area in each building is reduced by the vacancy rate of each building to yield the amount of gross occupied floor space
- The gross occupied office floor space is then divided by the total office employment to calculate the gross FSW

The FSW index is then the ratio of all office employment in a sample of buildings to all occupied gross office space in the sample.

Based on a sample of 166 buildings, the FSW index in the Central Core in 1988 stood at 25.2 square metres.The average FSW in the Central Core has reached a plateau. Increasing slightly from 25.0 square metres in 1983 to a high of 26.2 square metres in 1984 the Central Core FSW index returned to 25.0 square metres in 1987.It is unlikely that the substantial increase experienced between 1970 and 1980, from 21.5 to 25.0 square metres will be repeated in the short term.

4

Population Change

Another important aspect of change in the Toronto Region is the change in the distribution and growth of its population. The following section discusses regional population change between 1976 and 1986 on the basis of data derived from the Census of Canada.

4.1 Regional Population Growth

Between 1976 and 1986, the population of the Toronto Region increased by 17.4 percent, from 3.18 million to 3.73 million (Table 4). Due largely to migration from other parts of Canada and immigration from abroad, population growth in the Toronto Region accounted for two-thirds of Ontario's population increase and one-third of the nation's population growth as a whole during this period.

Table 4
Regional Population Growth
1976 – 1986

Location	Population 1976	1981	1986	1976-1986 Change Actual	%	1981-1986 Change Actual	%
City of Toronto	633,320	599,215	612,285	-21,035	-3.3	13,070	2.2
East York	106,950	101,974	101,085	-5,865	-5.5	-889	-0.9
York	141,365	134,617	135,401	-5,964	-4.2	784	0.6
Etobicoke	297,110	298,713	302,973	5,863	2.0	4,260	1.4
North York	558,400	559,521	556,297	-2,103	-0.4	-3,224	-0.6
Scarborough	387,145	443,353	484,676	97,531	25.2	41,323	9.3
Durham Region	247,470	283,639	326,180	78,710	31.8	42,541	15.0
Halton Region	228,500	253,883	271,390	42,890	18.8	17,507	6.9
Peel Region	375,910	490,731	592,170	216,260	57.5	101,439	20.7
York Region	203,915	252,053	350,605	146,690	71.9	98,552	39.1
Toronto Region	3,180,085	3,417,699	3,733,062	552,977	17.4	315,363	9.2
Ontario	8,264,465	8,625,107	9,101,695	837,230	10.1	476,588	5.5

Source: Statistics Canada, Census of the Population.

In the four regions surrounding Metro Toronto, population growth over the 1976 - 1986 period was dramatic. Fully, 87 percent of the Region's population growth was accounted for by growth in York, Peel, Halton and Durham Regional municipalities.

Within Metropolitan Toronto, the population grew by 3.2 percent between 1976 and 1986, with most growth occurring in the City of Scarborough (up 97,500) on newly developed land, and in the City of Etobicoke (up 5,800).All other municipalities, including the City of Toronto, experienced modest declines during this period. Although the City of Toronto's population decreased by 5.4 percent between 1976 and 1981 (a continuation of a trend observed between 1971 and 1976), the City actually experienced growth of 2.2 percent between 1981 and 1986.

4.2 Population Change in the City

In sharp contrast to the period of population decline in the 10 years following 1971, the City of Toronto experienced a population increase of 13,000 between 1981 and 1986, reaching a total of 611,000 persons (Table 5).

Census data clearly indicate that the population increase in the City since 1976 came about largely as a result of new housing being constructed in the Central Area. While the Central Area's population increased by 17.2 percent between 1976 and 1986, the population of outer city neighbourhoods fell by 8 percent. Despite the decline in population in these traditional neighbourhoods, it appears the sharp drops of the 1970's which were due largely to gentrification, deconversion and undoubling, have subsided. However, without substantial redevelopment and/or intensification it is unlikely that population levels for the City as a whole will match population levels reached in the 1960s.

An important point to note about the growing Central Area population is that many of these residents also work in the Central Area. The Transportation Tomorrow Survey (TTS, 1986) revealed that 62.5 percent of the resident Central Area labour force were employed in the Central Area. With 22,596 housing units built in the Central Area between 1976 and 1986 a significant impact on inbound commuting has been made. In-

Table 5
Population Change in the City of Toronto
1976 – 1986

Location	Population 1976	Population 1986	Change Actual	Change %
Central Core	19,899	29,551	9,652	48.5
Outer Central Core	93,363	103,179	9,816	10.5
Central Area	113,262	132,730	19,468	17.2
Outer City	520,056	478,559	-41,497	-8.0
City of Toronto	633,318	611,289	-22,029	-3.5

Source: Statistics Canada, Census Tract Counts

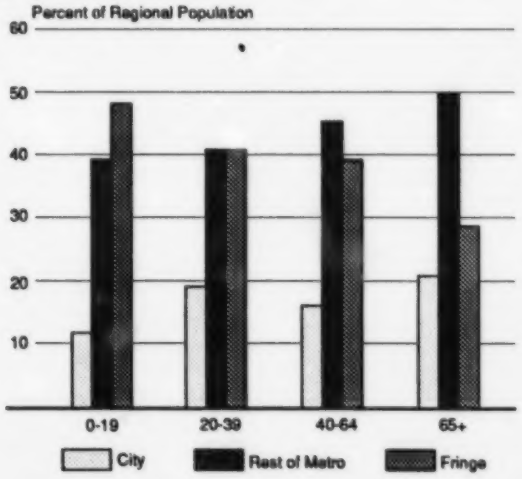
deed the findings of a recent "place of work" survey of Central Area residents indicate that an increasing proportion of downtown residents walk to work regularly. From a transportation viewpoint, this pattern of population growth appears to be quite favourable.

It is important to keep in mind, however, that the majority of population growth in the Region has and will continue to occur in the areas surrounding Metropolitan Toronto. To the degree that a significant portion of this growing suburban labour pool are likely to work in the Central Area, there could be an increased demand for long-distance commuter facilities serving the Central Area.

4.3 Changing Age Structure

The most prominent feature of the Region's population when examined according to its age structure is the dominance of the baby boom age cohort (ages 20 – 39). In 1986, the baby boom cohort accounted for approximately 36 percent of the Region's and 42 percent of the City's population. In the rest of Metro, the age profile leans in the direction of adults including roughly one-half of the region's seniors. In the fringe (that part of the region outside Metropolitan Toronto), children are predominant with those aged 0 – 19 constituting one in three residents and 48 percent of the regional population in this age group (Figure 10). A large proportion of future labour force growth in the region is therefore likely to occur in the fringe.

Figure 10
Population by Major Age Groups
Toronto Region



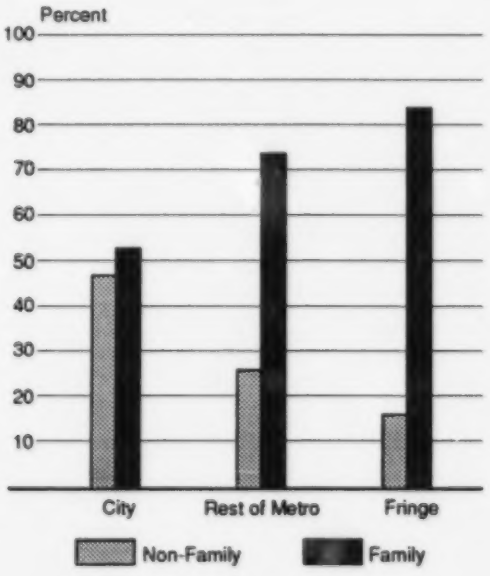
Source: Census of Canada, 1986.

4.4 Household Formation

Between 1981 and 1986, the number of households in the Region increased by nearly 10 percent from 1.18 million to 1.30 million. Just as in 1981, the family household[3] remained dominant, constituting roughly 70 percent of all households in the Region.

The largest increase in the number of households occurred in the fringe where 88,000 new households, 83 percent of which were family households, were formed. In Metro, the number of households formed between 1981 and 1986 totalled 40,000 – 58 percent of which were family households. In the City, on the other hand, new non-family households dominated, comprising almost three quarters of new households formed in the City between 1981 and 1986. In fact, non-family households appear to be much more prevalent in the City than elsewhere in the Region, constituting 47 percent of all households in 1986 compared with 26 percent and 16 percent in the rest of Metro and the fringe respectively (Figure 11).

Figure 11
Households by Type
Toronto Region



Source: Census of Canada, 1986

[3] The Census defines a family household as a household that contains at least one husband-wife (including common law) or parent-never-married child relationship while a non-family household refers to a person who lives alone in a private dwelling, or to a group of persons who occupy a private dwelling and do not constitute a census family.

4.5 Household Size

As it had done since 1971, average household size continued to decline in the City, albeit at a much slower rate. While the number of one person households increased by roughly 4,000 between 1981 and 1986, two and three person households showed the fastest rate of growth at just under 10 percent. In part, this trend is a reflection of the rising cost of housing in the City and the expenses associated with living alone. At the same time, however, it demonstrates the increasing attractiveness of City housing for the working age non-family population (Table 6).

Table 6
Distribution of Household Size in the City of Toronto
1976 – 1986

				1976-1986 Change		1981-1986 Change	
Size	**1976**	**1981**	**1986**	**Actual**	**%**	**Actual**	**%**
1 Person	71,325	90,505	94,615	23,290	32.7	4,110	4.5
2 Persons	65,155	65,735	72,080	6,925	10.6	6,345	9.7
3 Persons	31,495	30,745	33,740	2,245	7.1	2,995	9.7
4-5 Persons	43,885	41,085	41,730	-2,155	-4.9	645	1.6
6-9 Persons	17,560	12,605	10,480	-7,080	-40.3	-2,125	-16.9
10+ Persons	975	600	505	-470	-48.2	-95	-15.8
Total Hshlds.	230,395	241,275	253,150	22,755	9.9	11,875	4.9
Avg. Hshld Size	2.67	2.42	2.35	-0.32	-12.0	-0.07	-2.9

Source: Statistics Canada, Census of the Population

4.6 Summary

Although population growth in the Central Area over the 1981 to 1986 period was significant, the general pattern of demographic change in the Region was one which saw more dramatic changes in areas outside of Metro. The age structure of the Regional population suggests that in the future regional population and labour force growth will be focused in the Metro fringe. However, the significant population increase within Metro during the 1981-1986 period suggests that substantial growth is also likely to occur within the Metro boundaries. In fact, the Municipality of Metropolitan Toronto recently adopted a growth scenario in which the Metro population is targeted to increase to 2.5 million people by the year 2011; this would be a 300,000 increase above the "trend" forecast previously developed by Metro planners.

As employment opportunities within Metro continue to increase, several established regional travel patterns are likely to intensify. First, as the number of residents beyond the Metro boundaries who work in the Central Area increases, long distance commuting can be expected to increase. Similarly, as employment opportunities in suburban locations grow, the number of people driving to work within Metro (particularly to suburban office parks), is likely to increase. The observed pattern between 1976 and 1986 showed the growth of family households dispersed outside of Metro while non-family households were concentrated inside Metro. Regardless of Metro Toronto's population targets, it will be difficult to meet the housing requirements of the growing Metro workforce within Metropolitan Toronto without significant intensification and/or redevelopment. Difficult decisions concerning major investments in the regional transportation network will require the careful consideration of the implications of a growing, family-oriented, resident labour force in the fringe and the increase in employment opportunities in both the Central Area and in non-transit oriented office locations throughout the Region.

5

Labour Force Change

Changes in the regional economy including regional labour force growth, employment growth and occupational and industrial restructuring, have introduced a new measure of uncertainty which has complicated the process of long range planning in the Toronto Region. The process of change reflected itself in changing patterns of regional unemployment, growth in part-time work, increased participation by women in the labour force and the general movement towards an information-based service economy.

Over the past ten to fifteen years, paralleling changes in the labour force, and to some extent propelling them, was a process of technological innovation. While the Quinquennial Review examined and attempted to identify the technologies thought to be "driving" change, a broader analysis of technology and its impacts was provided in the Downtown Employment Studies (DES).

Both the Quinquennial Review and the DES recommended that labour force change and the continued impacts of technological change be monitored on a regular basis. Unfortunately, due to certain data restrictions and the costs associated with conducting comprehensive analyses of the impacts of technological innovation on an annual basis, extensive monitoring of the type provided in the Quinquennial Review and DES is not possible.

First, due to a lack of detailed occupation by industry data, an analysis of the information economy is not possible in intercensal periods. While 1986 was a Census year, detailed occupation by industry data gathered by the census will not be available from Statistics Canada until later in the Cityplan '91 process. The ability to examine the information economy in the Toronto Region is, therefore, determined largely by data availability.

In the meantime, the Labour Force Survey, conducted by Statistics Canada, allows for the monitoring of certain important trends on a more regular basis, particularly trends in unemployment, participation rates and to some extent shifts in the occupational and industrial characteristics of the resident Regional labour force. These data are useful in allowing a more general analysis of labour change during intercensal periods.

Secondly, while technological innovation appears to be continuing unabated, the adoption of new technologies is often slow and the impacts often imperceptible when measured on an annual basis. In addition, the costs associated with conducting *annual* surveys of the impacts of technological innovation in the workplace are prohibitive and suggest that analysis on a five year basis is more pragmatic.

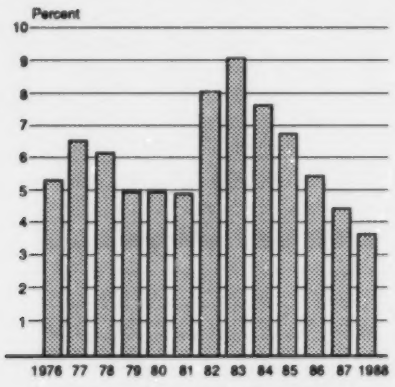
This section includes an examination of labour force trends using the Statistics Canada Labour Force Survey as the primary source. The section focuses on the resident labour force characteristics, unemployment, and, to some extent, occupational and industrial shifts in the resident labour force[4] of the City of Toronto and the surrounding Region.

5.1 Employment, Unemployment and Participation Rates

With 1.9 million people in the labour force in 1988, the Toronto CMA has the single largest labour pool in Canada – constituting 37 percent of the provincial and 14 percent of the national labour force. Unemployment in the Toronto CMA was typically lower, averaging 3.7 percent in 1988 compared with 5.0 percent provincially and 7.8 percent nationally.

Apart from the recessionary period (1981-1983), employment growth in the Toronto CMA since 1976 has been substantial – increasing from 1.4 million to 1.9 million in 1988. Since the recession when unemployment totalled 170,000, the number of people out of work in the region has declined substantially. In fact, by 1988, the rapid levels of job creation in the preceding five years resulted in a situation of what is commonly viewed as being full employment - an unemployment rate of 3.7 percent (Figure 12).

Figure 12
Unemployment Rates, Toronto CMA, 1976 – 1988



Source: Statistics Canada, Labour Force Survey

4 The resident labour force refers to those workers living within a given area, whether or not they actually work in that area.

In the City, while the resident labour force remained stable, employment grew by 11,000 or 3.3 percent between 1985 and 1988. Unemployment declined in the City from 7.5 percent in 1985 to 4.1 percent in 1988.

The 1986 Quinquennial Review noted the importance of monitoring trends in female labour force participation rates and the growing importance generally of part-time employment due to possible differences in the travel characteristics of these two groups (i.e. transit orientation and off-peak travel).Statistics Canada's Labour Force Survey provides data on both of these trends.

Since 1976, male labour force participation rates have remained relatively stable at 81 percent in the CMA.Female participation rates, however, went from 53 percent to 63 percent between 1976 and 1988. Female participation rates in the City rose until 1985 reaching 64.6 percent, the following three years saw a decline to 60.7 percent (Table 7).At the regional level, trends in participation rates tend to suggest that labour force

Table 7

Participation Rates, City of Toronto, Metro Toronto, and Toronto CMA, 1976 – 1988

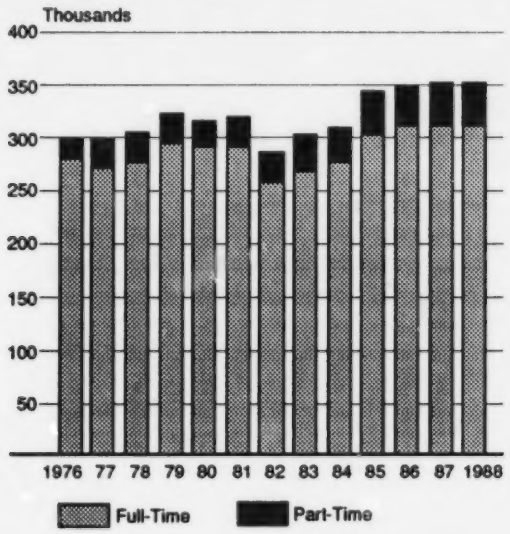
Year		City	Metro	CMA
1976	Male	77.2	81.0	81.4
	Female	54.7	52.7	53.1
1977	Male	77.4	80.6	81.2
	Female	57.0	53.5	54.4
1978	Male	77.5	81.6	86.9
	Female	56.3	56.4	56.2
1979	Male	79.7	82.3	82.7
	Female	59.2	58.5	58.2
1980	Male	76.4	80.4	81.7
	Female	58.6	57.3	58.6
1981	Male	79.3	81.7	83.4
	Female	61.0	58.4	60.5
1982	Male	75.6	80.4	81.8
	Female	59.7	58.5	60.6
1983	Male	75.4	79.7	80.9
	Female	61.6	60.1	61.5
1984	Male	77.6	78.4	81.0
	Female	61.7	59.7	61.4
1985	Male	77.8	79.1	80.7
	Female	64.6	60.4	62.5
1986	Male	80.3	78.6	81.5
	Female	62.3	59.7	62.3
1987	Male	78.1	79.1	81.3
	Female	61.6	61.9	63.0
1988	Male	77.9	78.4	80.6
	Female	60.7	60.9	62.9

Source: Statistics Canada, Labour Force Survey

and employment growth is in part due to increases in the number of women entering the labour force.The exception to this general pattern is the City which experienced recent relative declines in the number of women in the labour force.

Part-time work in the Toronto CMA continued to increase over its 1985 levels reaching 247,000 in 1988. In the City, roughly 41,000 people had part-time jobs in 1988 representing 11.5 percent of total employment (Figure 13). Interestingly, fully 62.2 percent of part-time employment among City residents in 1988 is accounted for by women.

Figure 13
City of Toronto Total Employment, 1976 – 1988

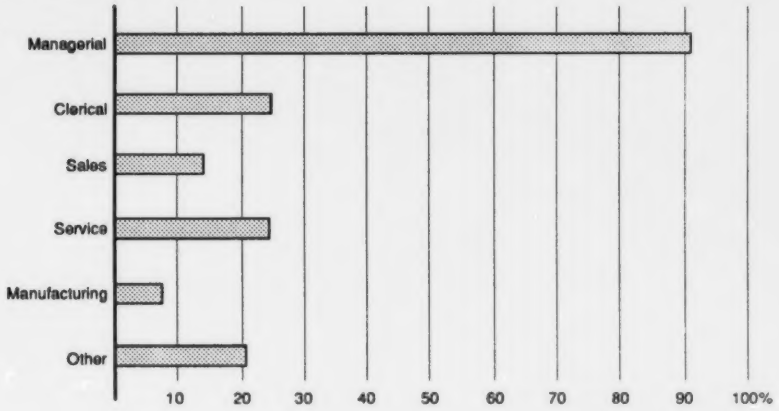


Source: Statistics Canada, Labour Force Survey

5.2 Occupational Change

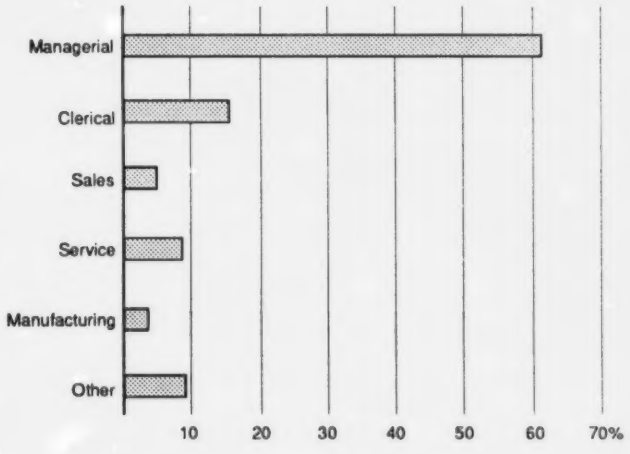
The QQR noted the continuing importance of the region as the administrative centre of Canada. Between 1976 and 1988, the number of managers in the Toronto Region increased by 91 percent and by 1988 constituted 34 percent of the regional labour force. This was followed by a 24.5 percent increase in the number of clerical employees and a 24 percent increase in the number of service employees (Figure 14). Together managerial, clerical and service employment accounted for 84 percent of all labour force growth by occupation between 1976 and 1988 (Figure 15).The lowest levels of growth occurred in sales- and production-related occupations – up 13.8 percent and 7.1 percent respectively.

Figure 14
Percent Change in Labour Force by Occupation
Toronto CMA 1976 – 1988



Source: Statistics Canada, Labour Force Survey

Figure 15
Share of Labour Force Change by Occupation*
Toronto CMA 1976 – 1988

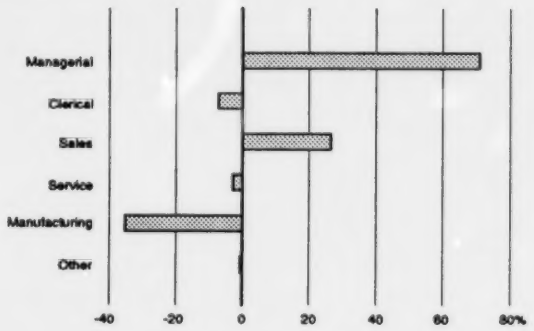


Source: Statistics Canada, Labour Force Survey

* The "share" of labour force change of each occupational classification represents the ratio of change in each sector to net change in the total labour force. Absolute decline in some sectors means the share represented by high growth sectors can be greater than the overall net change in the total labour force.

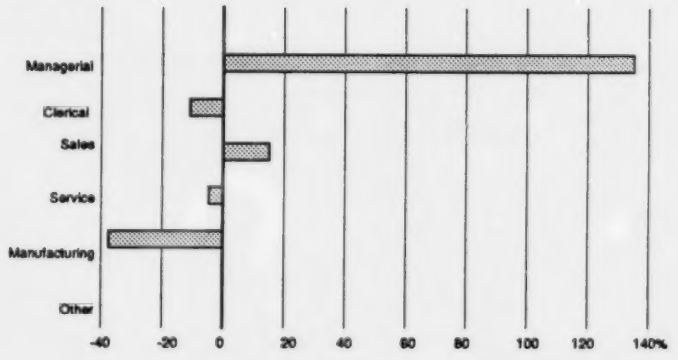
In the City, these trends were more exaggerated.The number of managers living in the City increased by 71 percent, accounting for 135.5 percent of the net total labour force change (Figures 16 and 17). At the same time, the number of clerical and production related workers living in the City actually declined by 7.2 percent and 36.0 percent respectively. The executive character of the City's population is best illustrated by the fact that by 1988, 40.2 percent of its labour force was made up of managers - by far the single largest occupational group in the City.

Figure 16
Percent Change in Labour Force by Occupation
City of Toronto 1976 – 1988



Source: Statistics Canada, Labour Force Survey

Figure 17
Share of Labour Force Change by Occupation
City of Toronto 1976 – 1988

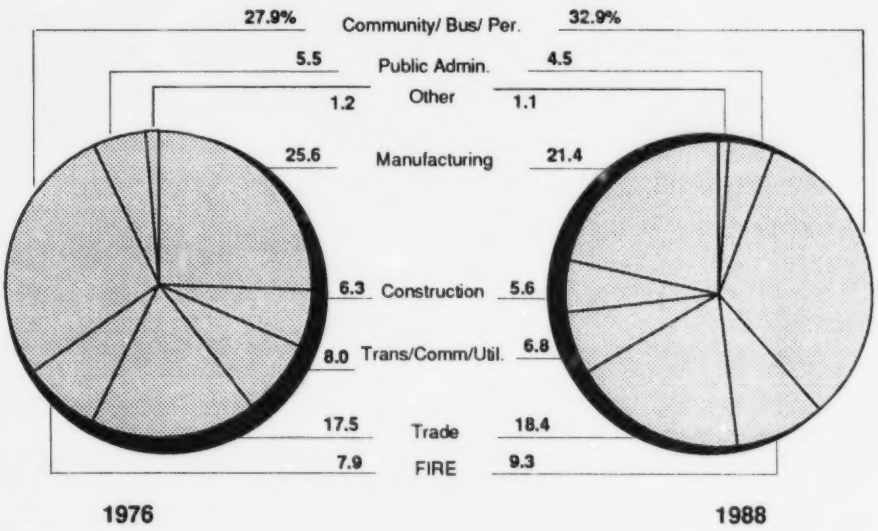


Source: Statistics Canada, Labour Force Survey

5.3 Industrial Change

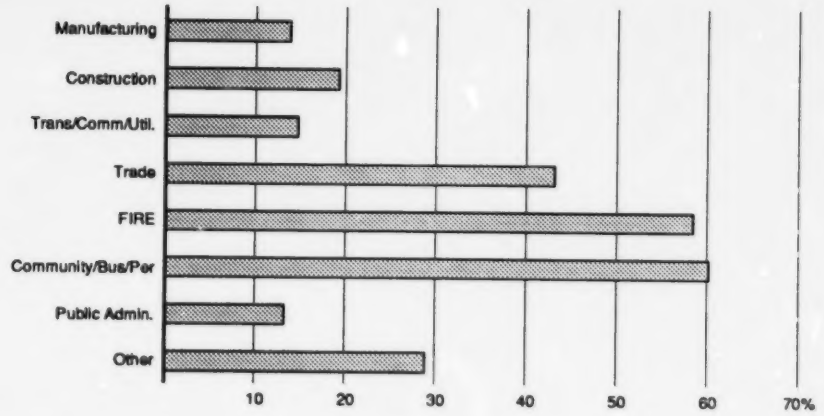
Between 1976 and 1988 the industrial structure of the Region's labour force was characterized by some very major changes. Those engaged in Manufacturing, for example, declined from 26 to 21 percent of the labour force, while the proportion of those engaged in Community, Business and Personal Services went from 28 to 33 percent of the labour force (Figure 18). Indeed, between 1976 and 1988, Community, Business and Personal Services accounted for 47 percent of labour force growth (Figure 20). Furthermore, between 1976 and 1988 Community, Business and Personal Services experienced the most rapid level of growth at 60 percent, followed closely by Finance, Insurance and Real Estate (FIRE) at 58 percent (Figure 19).

Figure 18
Labour Force by Industry
Toronto CMA 1976 – 1988



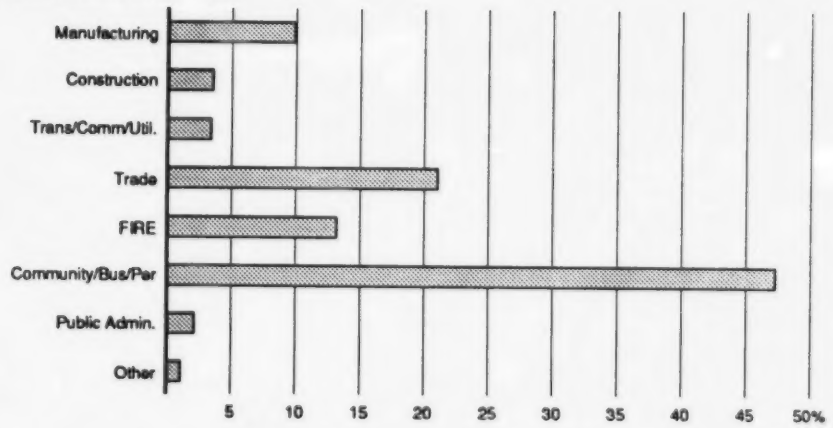
Source: Statistics Canada, Labour Force Survey

Figure 19
Percent Change in Labour Force by Industry
Toronto CMA 1976 – 1988



Source: Statistics Canada, Labour Force Survey

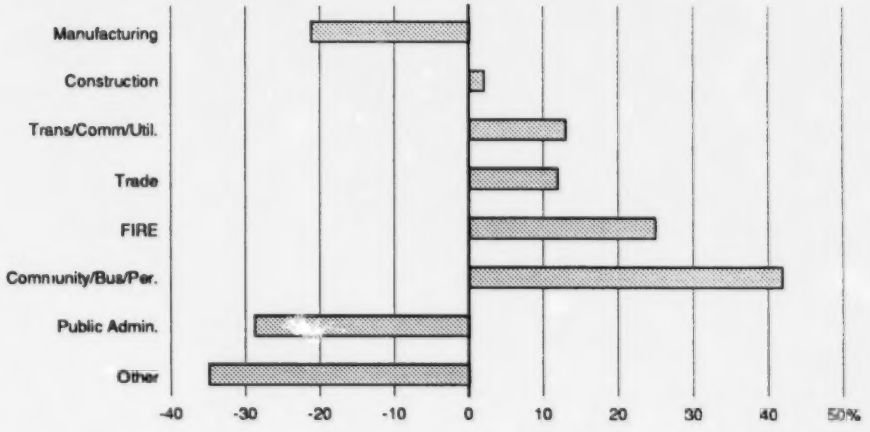
Figure 20
Share of Labour Force Change by Industry
Toronto CMA 1976 – 1988



Source: Statistics Canada, Labour Force Survey

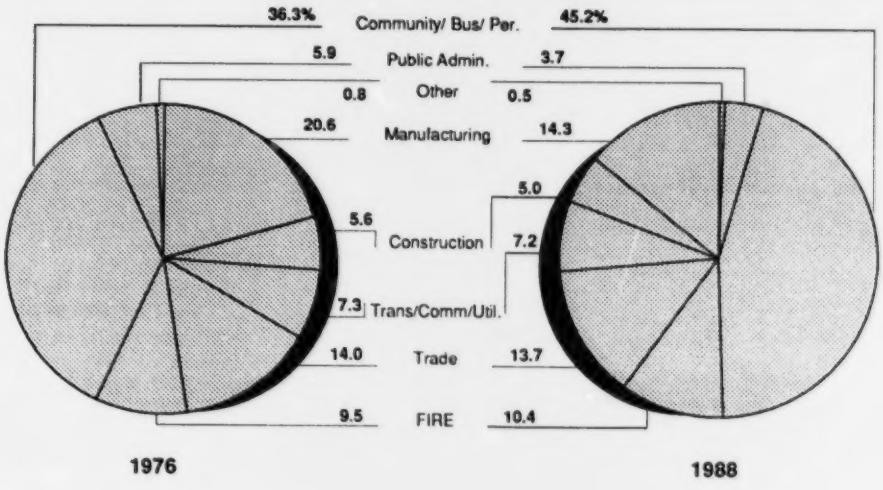
For workers residing in the City, the Community, Business and Personal Services sector also experienced the fastest growth - 42.1 percent between 1976 and 1988 (Figure 21).This was followed by the FIRE sector at 25 percent and Transportation, Communications and Utilities at 13 percent.In fact, by 1988, Community, Business and Personal Services employed roughly 45 percent of the City's resident labour force (Figure 22).Notable over the 1976-88 period was the change which occurred in Manufacturing where a 31 percent drop in employment (Figure 23) resulted in a drop (Figure 22) in its share of the total labour force from 21 percent to 14 percent.

Figure 21
Percent Change in Labour Force by Industry
City of Toronto 1976 – 1988



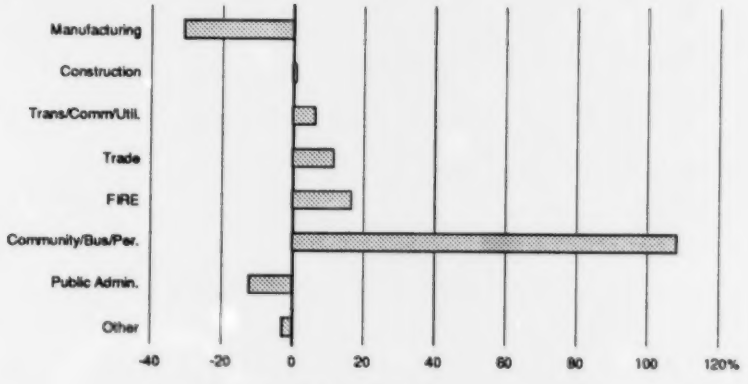
Source: Statistics Canada, Labour Force Survey

Figure 22
Labour Force by Industry
City of Toronto 1976 – 1988



Source: Statistics Canada, Labour Force Survey

Figure 23
Share of Labour Force Change by Industry
City of Toronto 1976 – 1988



Source: Statistics Canada, Labour Force Survey

5.4 Summary

The general pattern of labour force change noted in the Quinquennial Review analysis appears to have continued over the 1985–1988 period.Labour force and employment growth continued at high levels, but occurred to a large extent in areas outside of Metro.

The pattern noted for occupational and industrial change using Labour Force Survey data for the 1976-1988 period was also consistent with the pattern of change noted in the QQR – namely, a rapid growth in the number of managers and service workers in the region, the decreasing importance of Manufacturing as a source of employment and the growing dominance of the Community, Business and Personal Services and FIRE sectors of the economy.

Because the Labour Force Survey provides data by place of residence, it also reveals something about the increasing executive nature of the City.Not only, as was indicated in the QQR, is the City increasingly a *place of work* for many of the region's executives but the City is increasingly becoming a *place of residence* for many of the region's executives.In fact, over the 1976-1988 period, the growth in the number of managers living in the City accounted for 135.5 percent of all net resident labour force change in the City over that period.

An important recent change in the labour force (over the 1985-1988 period) has been the drop in unemployment rates.The continued strength of the economy not only absorbed the high levels of job vacancies which existed throughout the Region prior to 1986 but also generated a substantial number of additional jobs which were rapidly taken up. By the end of 1988 virtually full employment existed throughout the Region. In the context of the Central Area, this drop in unemployment is clearly related to increasing office employment.

6

Employment Trends

Tracking changes in employment by land use is fundamental to the monitoring process because such changes affect the demand for space in which to accommodate workers as well as the demand for transportation facilities to move people to and from work. Using data from annual surveys of employment conducted by the Metropolitan Toronto Planning Department, the following section focuses on employment change by land use in the 1983 to 1988 period.

The Metropolitan Toronto Planning Department conducts a large sample survey of business establishments located throughout the Metro Area. Rather than provide estimates by Standard Industrial Classifications (SIC), the Employment Survey provides employment estimates based on land use classifications. While the SIC and land use classifications do not match, the Employment Survey has the advantage of providing place of work data on an annual basis.As mentioned earlier, the Census provides detailed employment data, at best, every five years.

Generally, the Metro Survey data can be broken down into six land use groups: Office, Retail, Service (restaurant, hotels), Industry (manufacturing and warehousing), Institutional and Other and allows for the annual monitoring of employment changes based on these categories.

6.1 Employment Change

Four distinct periods of employment change occurred between 1970 and 1988.

1) **1970-1981** A decade characterized by overall employment growth but experiencing broader structural shifts in the jobs and industries in which people were employed. In particular, the decline of Primary and Secondary Industry and the rise of Finance, Insurance and Real Estate, Trade and Community, Business and Personal Services was evident.
2) **1981-1983** A slowdown in growth and absolute decline in most sectors caused by the economic recession. Particularly hard hit was the Manufacturing sector which lost 47,000 jobs Metro-wide and dropped 24 percent in the City.

3) **1983-1985** A period of recovery characterized by total employment returning to pre-recession levels but with an increasing part-time component.In addition, the Office sector proved the dominant source of employment growth as 64 percent of all growth in the City and 70 percent of the Central Area growth was accounted for by the Office sector.

4) **1986-1988** After 1985, when pre-recession employment levels had been re-established, a more stable period of growth settled in. In the City as a whole, total employment increased by 4.4 percent in 1986, 3.4 percent in 1987 and a further 2.2 percent in 1988.In relative terms Institutional employment grew most rapidly but Office[5] employment increased most in absolute terms accounting for 75.2 percent of all growth City-wide between 1985 and 1988 (Table 8).

Table 8
City of Toronto Employment Trends 1983 – 1988

		Office	Retail	Service	Industry	Institution	Other	Total
1983	Full-time	253,590	39,793	41,766	52,316	51,697	7,273	446,435
	Part-time	10,898	12,534	8,889	2,482	6,782	3,876	45,461
	Total	264,488	52,327	50,655	54,798	58,479	11,149	491,896
1984	Full-time	267,981	36,447	42,344	52,195	51,444	8,096	458,507
	Part-time	11,761	14,358	10,670	2,631	7,731	4,391	51,542
	Total	279,742	50,805	53,014	54,826	59,175	12,487	510,049
1985	Full-time	270,037	35,803	42,732	53,747	53,565	8,206	464,090
	Part-time	14,026	14,870	12,197	2,767	8,226	5,933	58,019
	Total	284,063	50,673	54,929	56,514	61,791	14,139	522,109
1986	Full-time	277,232	35,736	45,160	49,950	56,384	8,731	473,193
	Part-time	18,871	16,894	14,826	3,714	11,480	6,274	72,059
	Total	296,103	52,630	59,986	53,664	67,864	15,005	545,252
1987	Full-time	293,987	36,637	46,871	45,944	58,976	9,380	491,795
	Part-time	19,960	16,917	14,939	3,227	10,679	6,171	71,893
	Total	313,947	53,554	61,810	49,171	69,655	15,551	563,688
1988	Full-time	300,921	35,841	45,831	42,915	58,975	8,849	493,332
	Part-time	23,678	18,389	16,210	5,485	12,795	6,151	82,708
	Total	324,599	54,230	62,041	48,400	71,770	15,000	576,040
1983-88 % Change								
	Full-time	18.66	-9.93	9.73	-17.97	14.08	21.67	10.50
	Part-time	117.27	46.71	82.36	120.99	88.66	58.69	81.93
	Total	22.73	3.64	22.48	-11.68	22.73	34.54	17.11
1987-88 % Change								
	Full-time	2.36	-2.17	-2.22	-6.59	0.00	-5.66	0.31
	Part-time	18.63	8.70	8.51	69.97	19.81	-0.32	15.04
	Total	3.39	1.26	0.37	-1.57	3.04	-3.54	2.19

Source : Metropolitan Toronto Planning Department

5 Office employment using the Metro Employment File definitions includes for example offices of mining companies, accountants, banks, etc.

In the Central Area while Institutional employment grew the most in percentage terms (24.3 percent), Office sector growth in absolute terms was almost 3 times larger at 30,055. At the same time, Service sector employment in the Central Area continued to grow, increasing by 14.2 percent over the 1985 – 1988 period. Manufacturing employment on the other hand, exhibited a relatively constant decline through 1986, 1987 and 1988 (Table 9). However, increases in non-manufacturing employment within industrial lands, as reviewed in Industrial Land Use Policy in Toronto (1989), have contributed to the stabilization of employment levels in an expanded industrial sector.

Table 9
Central Area Employment Trends 1983 – 1988

		Office	Retail	Service	Industry	Institution	Other	Total
1983	Full-time	204,071	21,503	26,357	32,472	35,360	5,023	324,786
	Part-time	6,176	6,848	5,841	1,956	4,903	3,078	28,802
	Total	210,247	28,351	32,198	34,428	40,263	8,101	353,588
1984	Full-time	213,549	19,076	26,534	31,465	35,616	6,476	332,716
	Part-time	7,031	8,023	7,261	2,055	5,603	3,597	33,570
	Total	220,580	27,099	33,795	33,520	41,219	10,073	366,286
1985	Full-time	215,036	19,262	27,044	31,550	36,634	6,408	335,934
	Part-time	9,869	8,215	7,944	2,225	5,317	4,868	38,438
	Total	224,905	27,477	34,988	33,775	41,951	11,276	374,372
1986	Full-time	221,124	19,559	29,463	29,255	38,522	6,579	344,502
	Part-time	13,157	9,403	10,283	2,880	7,835	5,076	48,634
	Total	234,281	28,962	39,746	32,135	46,357	11,655	393,136
1987	Full-time	233,074	20,096	31,380	27,692	42,234	7,285	361,761
	Part-time	13,435	9,301	10,393	2,584	7,058	4,880	47,651
	Total	246,509	29,397	41,773	30,276	49,292	12,165	409,412
1988	Full-time	238,367	19,486	29,241	24,044	43,041	7,267	361,446
	Part-time	16,593	10,274	10,712	4,766	8,992	4,675	56,012
	Total	254,960	29,760	39,953	28,810	52,033	11,942	417,458
1983-88 % Change								
	Full-time	16.81	-9.38	10.94	-25.95	21.72	44.67	11.29
	Part-time	168.67	50.03	83.39	143.66	83.40	51.88	94.47
	Total	21.27	4.97	24.09	-16.32	29.23	47.41	18.06
1987-88 % Change								
	Full-time	2.27	-3.04	-6.82	-13.17	1.91	-0.25	-0.09
	Part-time	23.51	10.46	3.07	84.44	27.40	-4.20	17.55
	Total	3.43	1.23	-4.36	-4.84	5.56	-1.83	1.97

Source : Metropolitan Toronto Planning Department

6.2 The Office Sector

Given the dominance of the Office sector in the Central Area and its importance in transportation planning, a more detailed examination of sub-sectors within the office sector follows. Monitoring employment trends in the various sub-sectors of the office sector provides a better understanding of the composition of office employment growth, thereby improving our ability to estimate employment change and the associated transportation requirements. In this section, the Metro Toronto employment survey data are used to show employment trends in various office sub-sectors over the 1983-1988 period.

The most rapidly growing components of office employment within the Central Area from 1983 to 1988 were the Trade and Personal Services Sector, which grew 62.0 percent, followed by the Business Services sector which grew by 44.0 percent (Table 10). In absolute terms, however, by far the most significant growth occurred in Finance, Insurance and Real Estate (FIRE) and the Business Services sectors – up 13,800 and 17,180 employees respectively. The overall growth and importance of FIRE and Business Services to the Central Area economy is best demonstrated by the fact that together they constituted 53 percent of all office employment in 1988 compared with 49 percent in 1983.Interestingly, while part-time employment growth in other sectors was comparatively insignificant in absolute terms, the growth in part-time employment in Business Services of 327 percent and in FIRE of 240 percent translate into 3,270 and 2,637 part-time workers respectively.To the extent that part-time workers may have different travel patterns, the continuation of the trend towards increased part-time employment, particularly in the Central Area's two most important employment sub-sectors, should be given careful consideration in future analyses of transportation requirements.

6.3 Financial Services

Because of the importance of the financial sector to the Central Area's and indeed, the nation's economy, both the Quinquennial Review and the DES recommended that a program of monitoring which had the financial sector as its focus be undertaken. It was suggested that, because of very rapid changes in the world's major financial markets, including deregulation and financial and technological innovation, the City, as the major financial centre in Canada, would be somehow affected and that these effects should be examined. A broad scale analysis of financial services as it relates to the City is currently underway. This section examines one aspect of change in financial services, namely employment.

Roughly 85 percent of City-wide employment in financial services is located in the Central Area. Accordingly, an analysis of changes within this sector for the Central Area will provide valuable insight into recent changes in that sector generally. In total, 79,000 people were employed in FIRE in the Central Area in 1988 (Table 11). This compares

Table 10
Central Area Employment Trends
Office Sector
1983 – 1988

	Manuf., Transp. & Utilities	Finance, Insurance, Real Estate	Bus. Servs.	Tech. Servs.	Comm. & Media	Trade & Pers. Servs.	Health Servs.	Govt.	Assoc. & Other Activities	Total
1983										
Full-time	37,058	64,311	38,057	4,131	11,118	7,844	2,902	31,923	6,721	204,065
Part-time	299	1,100	1,000	115	843	594	297	594	1,334	6,176
Total	37,357	65,411	39,057	4,246	11,961	8,438	3,199	32,517	8,055	210,241
1984										
Full-time	36,394	68,991	36,226	3,397	13,330	11,675	2,934	33,272	7,330	213,549
Part-time	557	1,634	1,429	168	721	690	384	852	596	7,031
Total	36,951	70,625	37,655	3,565	14,051	12,365	3,318	34,124	7,926	220,580
1985										
Full-time	34,988	65,197	39,678	3,956	14,296	12,604	2,748	35,066	6,503	21[illegible]36
Part-time	1,106	1,924	2,402	217	913	785	497	1,254	771	9,869
Total	36,094	67,121	42,080	4,173	15,209	13,389	3,245	36,320	7,274	224,905
1986										
Full-time	31,580	70,606	42,350	4,260	15,881	12,652	2,952	34,096	6,747	221,124
Part-time	728	2,975	3,555	340	1,727	1,094	690	1,063	985	13,157
Total	32,308	73,581	45,905	4,600	17,608	13,746	3,642	35,159	7,732	234,281
1987										
Full-time	31,676	74,645	48,708	4,680	15,183	11,651	3,196	36,897	6,438	233,074
Part-time	1,027	3,426	3,534	242	1,337	1,538	635	1,131	565	13,435
Total	32,703	78,071	52,242	4,922	16,520	13,189	3,831	38,028	7,003	246,509
1988										
Full-time	30,064	75,517	51,967	4,652	14,701	11,784	3,574	38,675	7,433	238,367
Part-time	1,183	3,737	4,270	310	1,374	1,869	937	2,092	821	16,593
Total	31,247	79,254	56,237	4,962	16,075	13,653	4,511	40,767	8,254	254,960
1983-88 % Change										
Full-time	-18.87	17.42	36.55	12.61	32.23	50.23	23.16	21.15	10.59	16.81
Part-time	295.65	239.73	327.00	169.57	62.99	214.65	215.49	252.19	-38.46	168.67
Total	-16.36	21.16	43.99	16.86	34.40	61.80	41.01	25.37	2.47	21.27
1987-88 % Change										
Full-time	-5.09	1.17	6.69	-0.60	-3.17	1.14	11.83	4.82	15.46	2.27
Part-time	15.19	9.08	20.83	28.10	2.77	21.52	47.56	84.97	45.31	23.51
Total	-4.45	1.52	7.65	0.81	-2.69	3.52	17.75	7.20	17.86	3.43

Source : Metropolitan Toronto Planning Department

Table 11
Central Area Employment Trends
Finance, Insurance and Real Estate
1983 – 1988

	Banks & Trust Co. Branches	Banks & Trust Co. Adminis.	Invest. Services	Financing	Insurance Cos.	Other Fire	Total
1983							
Full-time	6,438	14,170	10,109	4,240	25,131	4,223	64,311
Part-time	356	60	91	37	356	200	1,100
Total	6,794	14,230	10,200	4,277	25,487	4,423	65,411
1984							
Full-time	7,509	20,832	10,992	4,623	20,109	4,926	68,991
Part-time	418	211	262	137	207	399	1,634
Total	7,927	21,043	11,254	4,760	20,316	5,325	70,625
1985							
Full-time	7,926	19,201	10,021	2,607	20,062	5,380	65,197
Part-time	462	121	242	150	358	591	1,924
Total	8,388	19,322	10,263	2,757	20,420	5,971	67,121
1986							
Full-time	11,505	19,667	11,116	1,891	19,234	7,193	70,606
Part-time	569	1,138	281	103	453	431	2,975
Total	12,074	20,805	11,397	1,994	19,687	7,624	73,581
1987							
Full-time	9,942	23,008	14,034	2,827	18,853	5,981	74,645
Part-time	647	1,306	252	172	611	438	3,426
Total	10,589	24,314	14,286	2,999	19,464	6,419	78,071
1988							
Full-time	5,962	25,562	14,566	2,069	20,723	6,635	75,517
Part-time	946	1,199	455	150	565	422	3,737
Total	6,908	26,761	15,021	2,219	21,288	7,057	79,254
1983-88 % Change							
Full-time	-7.39	80.40	44.09	-51.20	-17.54	57.12	17.42
Part-time	165.73	1898.33	400.00	305.41	58.71	111.00	239.73
Total	1.68	88.06	47.26	-48.12	-16.48	59.55	21.16
1987-88 % Change							
Full-time	-40.03	11.10	3.79	-26.81	9.92	10.93	1.17
Part-time	46.21	-8.19	80.56	-12.79	-7.53	-3.65	9.08
Total	-34.76	10.06	5.14	-26.01	9.37	9.94	1.52

Source : Metropolitan Toronto Planning Department

with 65,000 in 1983 representing a growth rate of 21 percent in the 1983-88 period. Dominating were Banking and Trust Companies, and Insurance Companies, with approximately 34,000 and 21,000 employed respectively. Insurance Companies have, however, shown a tendency to move out of the Central Area and did in fact lose roughly 4,000 in employment between 1983 and 1988. On the other hand, employment in Investment Services showed steady growth between 1983 and 1988, growing by 47 percent and reaching over 15,000 employees in 1988.

6.4 Summary

The 1985 to 1988 period saw employment growth continue in the City.While the Institutional sector saw the highest relative growth, the Office sector experienced the highest absolute growth.

Within the Office sector, the most substantial growth occurred in the Finance, Insurance and Real Estate and Business Services sectors which comprised a total of 51 percent of all office employment in the City by 1988. Interestingly, these two sectors also experienced rapid growth in their part-time work forces.

The importance of the financial sector in the Central Area in particular is evident by the fact that 85 percent of the City's total financial sector employment was located there in 1988. Over the 1983-1988 period, Insurance Companies lost 4,000 net employees while Investment Services showed steady growth reaching a total of more than 15,000 employees in 1988.

An important feature worth noting with respect to financial services is that, as with other sectors of the economy, it is subject to rapidly changing conditions in various financial markets.It is known, for example, that after the market crash of October 1987, a considerable "shakeout" took place in London and New York in terms of employment in a number of financial institutions.The effect of the 1987 crash in Toronto is difficult to estimate due to data availability, but it is unlikely that it would have weathered the storm unscathed.In this context, it is important to remember that perhaps more than others, the Financial Services sector is subject to the vagaries of the economic system as a whole and that policies based on unqualified assumptions of continuous growth in this sector should be pursued with caution.

7

Transportation

The 1976 Central Area Plan established policies which linked development in the Central Area to the capacity of the existing transportation system as defined in September 1975.In line with these policies, the Central Area Plan required regular monitoring of passenger and vehicle movements on the transportation infrastructure serving the Central Area.The following section examines the various trends measuring the utilization of the transportation infrastructure.The section consists of a review of a number of reports recently published by the City and Metro which have focused on the transportation question.

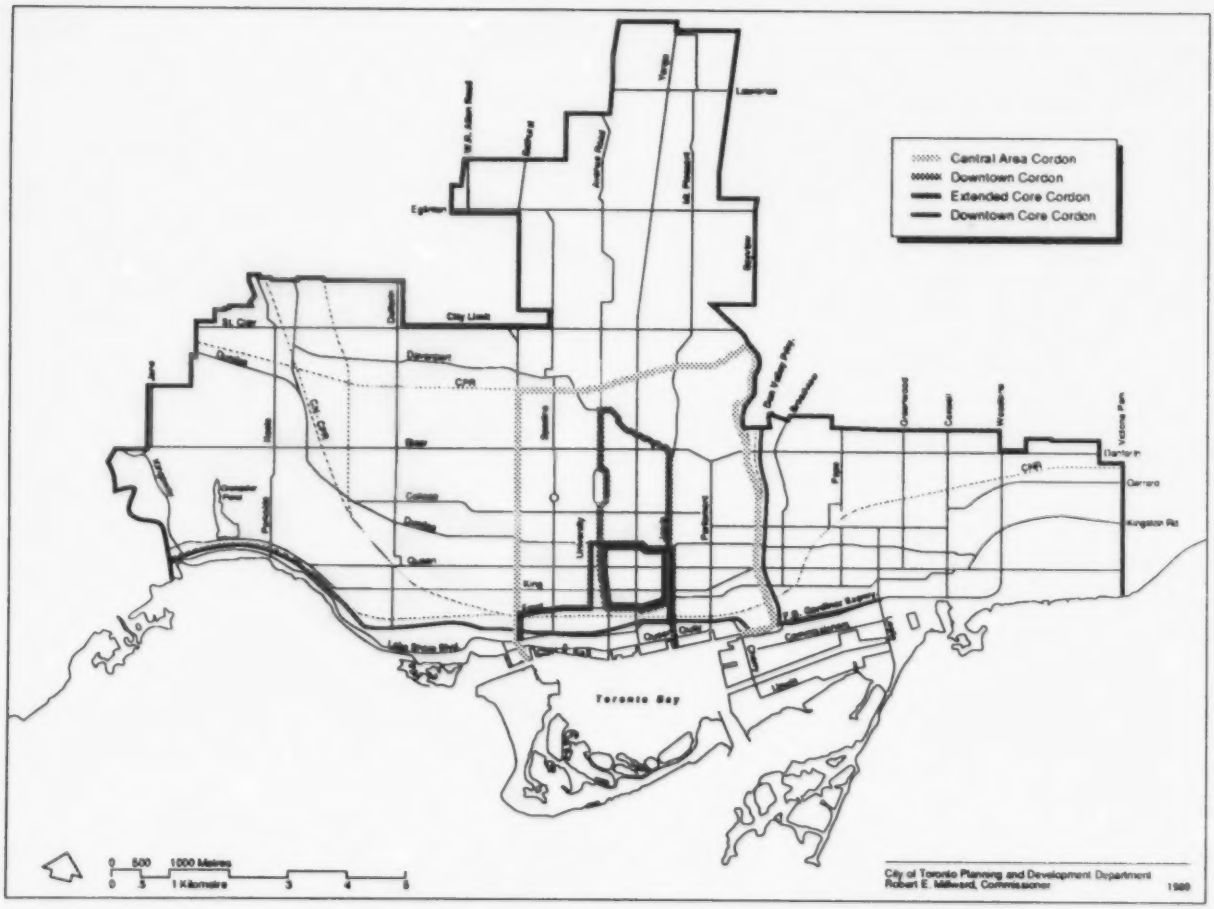
7.1 The Central Area Monitoring Program – 1988

The Central Area Monitoring Program (CAMP) was initiated by Metropolitan Toronto and the City of Toronto in 1985 to address the concerns arising out of traffic congestion on the roads and transit facilities serving the Central Area. Participants include Metropolitan Toronto Planning and Development Department, City of Toronto Planning and Development Department, City of Toronto Department of Public Works, GO Transit, the Toronto Transit Commission (TTC) and the Ministry of Transportation. The overall objectives of CAMP were to develop a common set of indicators and monitor the trends for a number of key variables such as transportation system usage, travel characteristics, office floor space, vacancy rates, population, labour force and employment. In addition, CAMP was to identify the causal relationships which would facilitate improved trip generation estimates of future office development and identify the need for and timing of improvements to the transportation system. As a majority of the variables examined by CAMP have already been dealt with in this report, the focus in this section will be on the transportation usage and travel characteristics portion of CAMP's findings. The broader transportation/land use issues will be dealt with in the following section.

7.1.1 Cordon Counts

One of the most important components of the monitoring of transportation system usage in the Toronto region is the Metropolitan Toronto Cordon Count Program.The Cordon Count Program provides information on vehicle and passenger volumes within the

Map 3
Cordon Boundaries in the City of Toronto



Metropolitan Toronto region (see Appendix). To facilitate the collection of this information, screenlines or boundaries, are established along major physical barriers and other appropriate boundaries within the region (Metro screenlines include the Don Valley, the Canadian Pacific Railway line near Dupont and the Metro boundary).Counting stations are located wherever a road, subway line or commuter railway line crosses a screenline (with the exception of local streets where traffic flow is too small to justify setting up and manning a counting station).The area bounded by these screenlines is referred to as a cordon. Between 6:30 a.m. and 11:30 p.m.,the number of people and vehicles crossing the screenline are recorded at fifteen minute intervals.The data from all counting stations which comprise the boundary of a cordon are then summed to generate a description of traffic patterns in and out of each cordon.

When analyzing cordon count information it is important to remain aware of possible inconsistencies which may result from the one day manual counting procedure.Unusual measurements, resulting from counting errors, accidents, road closures or inclimate weather, can result in cordon count values which are uncharacteristic of actual traffic flows.To reduce the likelihood of misinterpreting short term fluctuations of this nature as being representative of actual trends it is useful to assemble a lengthy time series of comparable data.The time series approach also reduces the margin of error which may be attributed to inconsistencies in data collection techniques.A generally reliable description of the long term traffic flow trends can therefore be generated through a discussion of the Metro Cordon Count Program since its inception in 1975.

Data from the Metro Cordon Count Program provides a detailed description of traffic flow patterns across several cordons within the City of Toronto (Map 3).Traffic flows across the Central Area, Downtown and Downtown Core Cordons have been monitored since 1975, but only since 1985 for the Extended Core Cordon.The spreading of the peak period from two to three hours (identified through the analysis of 1985 and 1986 cordon count data) initiated a change in the focus of the 1988 CAMP report from the traditional two-hour peak period to a three-hour peak period.The following section will discuss the change in traffic volumes in and out of the four cordons, as observed in 1975 and 1988, during the 7:00 to 10:00 a.m. and 3:30 to 6:30 p.m. peak periods.

7.1.2 The Central Area Cordon 1975 – 1988

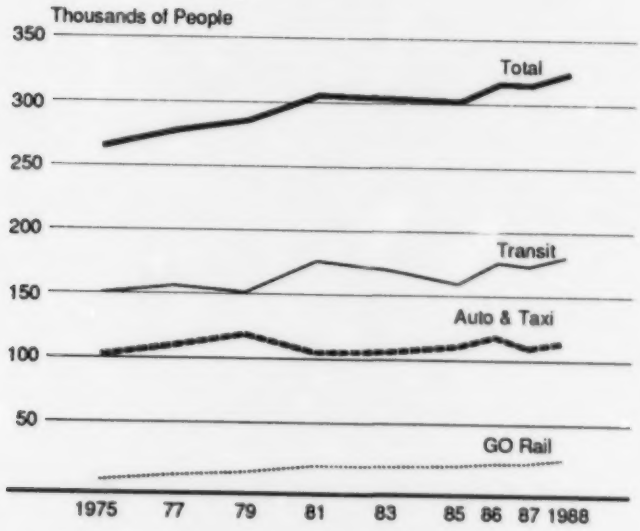
Between 1975 and 1988 the total number of vehicles entering the Central Area Cordon during the a.m. peak period increased by 17.9 percent (an average annual increase of 1.4 percent). During this time the number of automobiles and taxis increased by 16.5 percent (1.3 percent annually) while the number of trucks increased by 29.8 percent (2.3 percent annually).

During this same period total passenger trips increased by 23.0 percent or approximately 1.8 percent a year (Figure 24). The modest growth in the total number of passenger trips into the Central Area Cordon somewhat obscures the fact that there are large

variations between the increased number of passengers travelling by auto, transit and GO Rail. Between 1975 and 1988 the number of passengers using GO Rail increased by 178 percent (13.7 percent annually).Although GO Rail exhibited the largest percentage increase in ridership, transit facilities (excluding GO Rail) continued to carry the greatest number of people during the A.M. peak period.In fact during the 1975 to 1988 period, a 23.0 percent increase in transit ridership accounted for fifty-six percent of the total increase in passenger trips into the Central Area Cordon.

The number of people entering the cordon in automobiles exhibited the lowest increase among all types of transportation at 8.5 percent (0.7 percent annually).While the number of auto passenger trips has increased at 8.5 percent over the 1975-1988 period, the number of private vehicles has increased by 16.5 percent. This results from the fact that the average auto occupancy rate has declined throughout this period from 1.3 passengers per vehicle in 1975 to 1.2 in 1988.

Figure 24
Central Area Cordon, Inbound Passenger Movements by Mode
Morning Peak Period (7:00 to 10:00 a.m.)

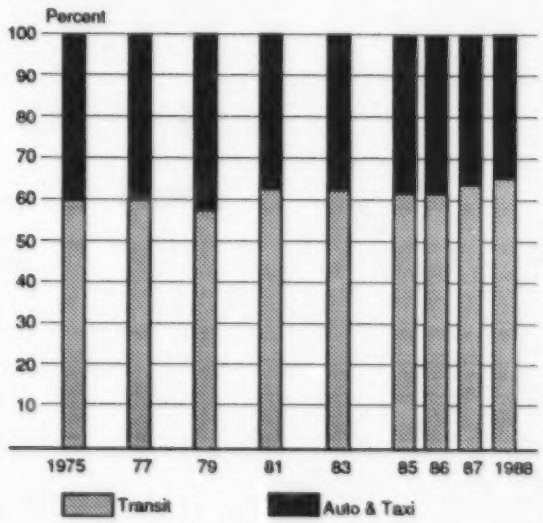


Source: Metro Cordon Count Program

The ratio of the number of people travelling in private cars to the number of people travelling on public transit is referred to as the modal split.In 1988 the modal split was approximately 35 percent auto 65 percent mass transit as compared to a 1975 modal split of approximately 40 percent auto 60 percent mass transit (Figure 25). Although the modal split varies from year to year the general trend has been towards increased transit use.

The pattern of outbound trips from the Central Area Cordon during the p.m. peak period essentially mirrors that of inbound trips during the a.m. peak period.Total vehicle trips increased by about 13.0 percent (1.0 percent annually) while total passenger trips increased by approximately 17.7 percent (1.4 percent annually).The increases experienced by almost all outbound counts are somewhat lower than their inbound counterparts indicating a less structured end to the work day as journey home trips are less concentrated in time than journey to work trips.The exception to this is the increase in passenger trips using GO Rail. Between 1975 and 1988 the increase in passenger trips using GO Rail in the p.m. peak period was exactly the same as the increase during the morning peak period.This can be attributed to the GO Rail schedule which all but ensures that all passengers using this facility arrive during the morning peak period and leave during the evening peak period.

Figure 25
Central Area Cordon, Modal Split
Morning Peak Period (7:00 to 10:00 a.m.)



Source: Metro Cordon Count Program

7.1.3 The Extended Core Cordon

Traffic flows into the Extended Core Cordon were first monitored in 1985 as an extension of the standard cordon count program.This cordon was established to focus on the Financial District and the newly developing areas to the south and west including Harbourfront and the Railway Lands.

Data for the Extended Core Cordon reveal that total passenger trips in the morning peak period increased by 8.1 percent (2.7 percent annually) between 1985 and 1988 while total vehicle trips increased by 5.0 percent (1.7 percent annually).Auto passenger trips increased by 1.9 percent (0.6 percent annually) and transit ridership increased by 11.0 percent (3.7 percent annually) while GO Rail increased by 19.4 percent (6.5 percent annually).When compared to the change in traffic flow into the Central Area Cordon during the same period the percentage increase in trips into the Extended Core Cordon were generally lower.One exception was the increase in GO Rail ridership which was the same for both cordons (reflecting the fact that Union Station is the only GO Rail terminal within the Central Area Cordon).

The data for outbound peak period trips between 1985 and 1988 exhibit a number of interesting features.The total number of passenger trips decreased by 2.0 percent (0.7 percent annually) while transit and auto passenger trips decreased by 2.3 percent (0.8 annually) and 6.0 percent (2.0 annually) respectively.The structuring of the train schedule is largely responsible for the 16.0 percent (5.3 percent annual) increase experienced by GO Rail during this period.

7.1.4 The Downtown Cordon

Between 1975 and 1988 the total number of vehicles entering the Downtown Cordon in the a.m. peak period increased by 21.1 percent (1.6 percent annually) while the total passenger trips increased by 21.5 percent (1.7 percent annually). The increase in auto passenger trips into the Downtown Cordon represented ninety-three percent of the increase in auto passengers into the Central Area Cordon as a whole.This manifested itself in a 12.7 percent increase in auto passenger trips between 1975 and 1988. The increase in transit based trips, 15.6 percent (1.2 percent annually), was considerably less than the percentage increase in total transit ridership into the Central Area Cordon.This implies that the area between the boundaries of these two cordons has experienced an employment increase greater than the increase within the Downtown Cordon.

The total number of outbound passenger trips crossing the Downtown Cordon boundary in the p.m. peak period increased by 6.7 percent (0.5 annually) during this period.When compared with the observed increase in total passenger trips during the morning peak period it is clear that the end of the working day and the journey home are considerably less concentrated in time than are the journey to work and typical start

times.Outbound transit passenger trips remained relatively stable between 1975 and 1988 exhibiting a marginal decrease of 0.3 percent.Auto passenger trips also remained relatively stable increasing by a modest 2.1 percent (0.2 percent annually).

7.1.5 The Downtown Core Cordon

To a considerable degree, traffic patterns during the a.m. peak period into the Downtown Core Cordon between 1975 and 1988 closely parallel trends observed in the Downtown Cordon.One noticeable exception is the relatively low increase in transit ridership into the area.The 6.9 percent (0.5 percent annual) increase in transit trips may reflect a situation similar to that mentioned in the comparison of the Central Area and Downtown Cordons, in that employment growth between the boundaries of the Downtown Core and Downtown Cordons has been greater than the employment increase within the Downtown Core Cordon.The general trend suggests a "spreading out" of employment opportunities as the traditional downtown office concentration expands.

Although the morning peak period data for the Downtown Core Cordon closely parallel the Downtown Cordon counts the same cannot be said of the p.m. peak period. During the evening rush hour total passenger trips from the Downtown Core Cordon increased by 25.1 percent (1.9 percent annually) between 1975 and 1988. Similarly, increases of 15.3 percent (1.2 annually) and 7.3 percent (0.6 annually) experienced by transit and auto trips respectively do not mirror the observed cordon counts for the Downtown Cordon.

7.1.6 Summary

The Cordon Count data indicate that in general terms the number of vehicles crossing the various cordons in the a.m. peak period has gradually increased between 1975 and 1988. Outbound peak period vehicle trips have also exhibited increases, albeit to a lesser degree. It appears that the trends in vehicle movements during both the a.m. and p.m. peak periods are influenced most by auto and taxi traffic.

Passenger movements across the cordons examined show steady increases throughout the study period although in total the increases are small.The number of passengers using GO Rail facilities increased the most in percentage terms.However, the substantial percentage increase in GO ridership should not overshadow the fact that the greatest absolute increase in passenger trips between 1975 and 1988 was on other transit services.

The increase in the number of Central Area oriented transit trips between 1975 and 1988 is reflected in changes to the modal split.In fact, the percentage of transit passenger trips relative to total passenger trips across all cordons in both the morning and afternoon peak periods has increased considerably during this time.Between 1975 and 1988 the Central Area modal split has fluctuated somewhat, however, the general trend

has been towards an increase in transit use.In 1988 the Central Area modal split was approximately 65 percent transit 35 percent auto as compared to 1975 when it was roughly 60 percent transit 40 percent auto. Similar increases in the percentage of transit passenger trips have also occurred in the other three cordons.

In 1988 the subway system continued to carry the majority of morning peak period trips into the Central Area. Peak point subway counts taken by the TTC[6] indicate that, in general, subway ridership experienced modest growth during the past several years.In 1988 the most heavily used section of the subway system during the morning peak period was the Yonge Street line south of Bloor Street which operated on average at 82 percent of its theoretical capacity. Similar counts of surface transit trips indicate that while the number of passengers entering the Central Area declined between 1981 and 1985 surface transit ridership has increased modestly since 1985.

The difference between the increase in auto passenger trips and the increase in auto vehicle trips between 1975 and 1988 is deserving of special mention.While the total number of vehicles entering the Central Area increased by roughly 16.5 percent the number of auto passengers increased by only 8.5 percent.The substantially higher increase in the number of vehicle trips reflects a sizeable decrease in the average number of passengers per vehicle. This decrease in the average auto occupancy rate may be interpreted as an underutilization of the existing road network.

7.2 The "Walk-to-Work-Survey"

In 1986, Central Area residents were surveyed by the City of Toronto Planning and Development Department as to the location of their employment and the manner in which they got there.This survey paralleled a similar one conducted in 1981.The major findings of the 1986 survey show:

- 38.0 percent of all Central Area residents walked to work in the summer months in 1986 and 32.4 percent walked in the winter (this compares with 35.9 percent and 30.7 percent respectively in 1981)
- 50.2 percent of all Core Area residents walked to work in the summer and 42.6 percent walked in the winter compared with 43.5 percent and 36.6 percent in 1981
- In terms of the entire Central Area workforce, 8.3 percent of full-time Central Area employees walked to work in the summer and 7.1 percent walked in the winter
- Average walking time increased to 21.8 minutes in 1986 from 12.3 minutes in 1981
- 52 percent of Central Area residents work in the Core
- 66 percent of Central Area residents rented accommodation, 82 percent worked in offices and 21 percent were engaged in Managerial/Administrative occupations

6 The average of monthly one-day counts of subway ridership taken at strategic locations as estimates of average annual ridership. The summer months, June, July and August are excluded from the average.

With increasing population growth in the Central Area (noted earlier) has come a significant increase in the proportion of Central Area residents walking or cycling to work. This clearly has a favourable impact on the demand for additional road and transit capacity.

The increase in the Central Area population, particularly with the construction of 6,886 new housing units since January 1986, served as the impetus to a survey of Central Area residents during the summer of 1989. The results of the Central Area Residents Survey are not yet available, but a detailed study which will address a number of the conclusions put forward by the "Walk-to-Work Survey" is forthcoming as part of the Cityplan '91 process.

8

Policy Implications

A number of recent studies have suggested that there is a potential imbalance forming in the Central Area between the level of development currently approved and underway and the transportation facilities available and proposed to serve it. Much of this analysis has been based on a marginal approach. This approach attempts to estimate the peak hour transportation impacts of new developments by applying variables such as floor space per worker ratios, peak hour factors, vacancy/absentee rates, modal split, a walk-to-work component, average auto occupancy rates and directional distribution to proposed increases in floor space. The expected traffic flow resulting from new developments are then added to existing volumes on the various road and transit facilities and the ability of the transportation network to provide the needed capacity is subsequently assessed.

It is evident from the analysis above, however, that the relationship between transportation demand, office space and employment growth is not as clear as it was traditionally held to be. The volume of inbound trips observed crossing the Central Area Cordon has not kept pace with recent rates of office floor space and employment growth. This is particularly true when relating traffic increases for the single a.m. peak-hour to changes in office development levels but also applies to the three-hour peak period trip data. The unexpectedly lower increase in inbound trips has brought the marginal approach to transportation forecasting into question.

One of the most recent, and possibly most constructive, discussions of the transportation/land use relationship was presented by Dr. David Nowlan during the Cityplan '91 Forum on the Future of the City of Toronto.In the paper, "Commercial Growth and the New Toronto Plan," Dr.Nowlan questions the assumption concerning the existence of an immutable link between office floor space and in-bound Central Area commuting levels.It is his contention that a critical factor, namely housing, has been seriously underestimated in previous discussions of the land use/transportation relationship within the Central Area.

Very simply stated Dr. Nowlan's argument is that the annual change in person trips into the Central Area may be better explained as a function of the mid year occupied office floor space and the growth in housing units or population within the Central Area.The

relationship between these variables was measured using simple regression techniques.This analysis produced the following equations:

Person Trips = 150 540 + 45 570 * Office Space – 1.22 * Dwellings

Person Trips = 178 050 + 41 750 * Office Space – 0.652 * Population

where

Person Trips represents the three-hour in-bound peak period trips across the Central Area Cordon

Office Space represents the mid-year occupied office space in the Central Core expressed in millions of square metres

Dwellings represents the number of housing units in the Central Area Cordon

Population represents the resident Central Area Cordon population;

which have been determined to be statistically significant in explaining more than 90 percent of the annual variation in person trips.

The first equation, which describes the relationship between the important policy variables of office space and homes, was then used as the basis for a discussion of alternative development scenarios for the 1991 Central Area Plan in which the coefficient of -1.22 was used to represent the impact of new housing in the Central Area in reducing the demand for inbound peak period trips. Dr. Nowlan concluded that if occupied floor space increased to 8.0 million square metres by the year 2011 the current number of trips entering the Central Area could be maintained if the Central Area housing stock increased from 66,000 to 150,000 units over this period.In other words, there would be no increase in commuting levels as a result of an increase in occupied office floor space from 6.03 to 8.0 million square metres if approximately 4,000 housing units were built, and occupied, every year for twenty years. Dr. Nowlan further concluded that the required total number of housing units could be reduced to 100,000 if the automobile modal split could be reduced from 35.2 to 30.0 percent.

The findings presented by Dr. Nowlan have important policy implications.The three variables which are included in the equations are certain to represent major components of the new 1991 Central Area Plan. Dr.Nowlan's interpretation of the link between cordon count data, office floor space and housing units quantifies this important relationship over the 1975 to 1988 period. However, it is well advised to be cautious, as Dr. Nowlan suggests, in using the equations to derive estimates of future trip levels into the Central Area.Further work is continuing on estimating these equations and some revisions and refinements to the interpretation of the above figures is expected.

If the production of new housing units is to be used to hold commuting levels in check while office development is allowed to continue to expand, it will be important to monitor the degree of "fit" between resident's employment skills and employment opportunities over time. A mismatch between the characteristics of occupants of housing units built and the employment opportunities offered within the Central Area would effectively undermine the reasoning that the majority of new Central Area residents will work in the Central Area.

The extent to which commuting patterns in the past ten years were influenced by changes in labour force characteristics and other demographic trends of new Central Area residents was not fully addressed in Dr.Nowlan's paper.A number of significant trends which were discussed earlier, such as the sizable increase in female participation rates and the changing residential labour force, require further analysis in determining the applicability of Dr. Nowlan's framework. Moreover, the manner in which occupational change, office market dynamics and technological change alter the employment picture within the Central Area become important factors in the transportation/land use equation.

In the meantime, research on individual parameters continue. A survey will be conducted to assess the modal choice decisions of employees in newer buildings and reports are being considered which examine the "quality" of jobs held by City residents and the impacts of deregulation in the financial services industry.Furthermore, with large developments such as BCE Place coming on stream, case studies are readily available to study in detail, the employment increases and transportation impacts of these developments. Detailed surveys of firms and employees occupying these developments could potentially shed much light on the likely impact of future developments.

9

Conclusions

As this report has indicated, the recent patterns of change in the City and Region, appear, for the most part, to be confirmations of previously established trends which were identified in the 1986 Quinquennial Review. For example, in the office sector, deconcentration policies have contributed to a further decline in the share of regional office space located in the Central Area - 49 percent of the regional total as of June 1989 compared with 76 percent in 1966. Moderate construction levels and relatively high absorption in 1986, 1987 and 1988, (largely of vacant space), have resulted in relatively low vacancy rates of 5.3 percent in the Central Area and 9.5 in the rest of the region in June of 1989. Development activity within the Central Core has reached a level where it is quite possible that the 1991 review limit of 7.0 million square metres will be exceeded by 1991, if not before.

In terms of labour force, the patterns of change identified in the 1986 Quinquennial Review also appears to be continuing.Both City and CMA residents display an increasing propensity to be engaged in managerial and administrative kinds of work.At the same time, the shift towards service sector employment seems to be solidifying in both the City and Region as a whole.

Employment growth was also strong and was paralleled by increasing numbers of women in the labour force. In the City recent employment growth was dominated by growth in Finance, Insurance and Real Estate, however, it is as yet unclear as to what impact the market crash of October 1987 has had on employment in all sectors. While it is known that some Financial Service firms cut employees, for the most part these adjustments have occurred since Metro conducted the 1988 employment survey; results of the 1989 survey are not yet available at the time of writing.Nevertheless, unemployment stood at 3.7 percent in the CMA and 4.1 percent in the City in 1988, representing a virtually full employment situation.

Although Metro Cordon Count data reveal some interesting patterns over the past number of years, namely a slight increase in auto and taxi vehicles crossing the Central Area Cordon, and an even smaller increase in the number of auto and taxi passengers, only GO passengers have shown a steady percentage increase.The most significant observed

trend in the cordon count data between 1975 and 1988 was the increase in transit ridership identified in the change in the modal split from 60 percent transit ridership to 65 percent transit ridership.At the same time however, neither the patterns indicated through the cordon count data nor the patterns of employment growth identified appear to be consistent with expected patterns as defined by levels of office development and its associated transportation impacts as estimated through the marginal approach.

Dr. David Nowlan's discussion paper added a previously under-estimated dimension to the assessment of the transportation impacts of Central Area development; namely the impact of Central Area housing and population growth.It is his suggestion that future levels of inbound commuting could be reduced through the construction of new housing within the Central Area.Although this principle should be applied cautiously the equations developed by Dr.Nowlan provide a useful framework in which alternative growth scenarios may be examined.

Recommendations arising out of the QQR, DES and the Living Room II reports recognized the central role of an extended monitoring program in the development of strategic policy. Such a monitoring program would provide the opportunity to alter assumptions and revise policy as the social and economic environment changed. Dr. Nowlan's introduction of the "nexus" hypothesis into the Cityplan '91 planning exercise adds to the need for a continuation of an extensive monitoring program.The tracking of population and employment trends and the monitoring of office characteristics such as supply, absorption and vacancy rates are necessary to provide information for the further development of the transportation/land use "nexus." The caution expressed when discussing the use of the Nowlan equations as a predictive tool strongly suggests the need to continue with the tracking of other demographic trends included in this report such as changes in the occupational and labour force structure of the resident Central Area population.

Appendix

Table A1
Metro Cordon Count Program Vehicle and Passenger Counts
A.M. Peak Period (7:00 to 10:00 a.m.)

	Vehicles				Passengers			
	Autos	Trucks	Transit	Total	Autos	Transit	GO Rail	Total
Central Area Cordon								
1975	81,485	9,643	955	92,083	107,137	150,904	10,082	268,123
1977	84,557	10,295	989	95,841	110,425	156,108	12,415	278,948
1979	89,796	11,687	953	102,436	120,015	151,376	16,119	287,510
1981	85,716	11,886	1,048	98,650	110,052	177,937	20,382	308,371
1983	87,285	11,424	1,054	99,763	112,317	173,366	20,758	306,441
1985	89,706	12,047	1,001	102,754	113,573	163,499	23,470	300,542
1986	96,324	11,258	988	108,570	120,924	177,727	23,526	322,177
1987	92,472	13,743	968	107,183	113,206	178,040	26,241	317,487
1988	94,940	12,517	1,020	108,477	116,261	185,560	28,021	329,842
Extended Core Cordon								
1985	64,125	9,197	778	74,100	79,957	79,163	23,470	182,590
1986	72,505	10,640	798	83,943	91,518	83,922	23,526	198,966
1987	67,862	10,875	790	79,527	82,387	94,911	26,241	203,539
1988	66,652	10,315	738	77,705	81,456	87,860	28,021	197,337
Downtown Cordon								
1975	50,855	5,694	1,179	57,728	67,279	166,673	10,012	243,964
1977	52,289	5,649	1,157	59,095	67,747	162,213	12,435	242,395
1979	53,040	6,469	1,122	60,631	69,672	160,579	16,119	246,370
1981	55,024	7,627	1,186	63,837	70,015	191,291	20,382	281,688
1982	52,756	6,597	1,132	60,485	66,967	182,120	20,913	270,000
1984	59,548	7,033	1,138	67,719	75,625	189,767	22,846	288,238
1986	60,477	7,854	1,071	69,402	75,345	172,954	23,526	271,825
1988	60,502	8,000	1,141	69,643	75,790	192,596	28,021	296,407
Downtown Core Cordon								
1975	27,687	3,486	876	32,049	36,923	79,052	10,012	125,987
1977	29,205	3,415	850	33,470	38,102	75,179	12,435	125,716
1979	29,824	3,886	864	34,574	38,648	78,186	16,119	132,953
1981	31,417	4,502	768	36,687	40,028	85,151	20,382	145,561
1982	29,811	3,951	724	34,486	37,588	87,158	20,913	145,659
1984	33,902	4,215	772	38,889	43,650	85,310	22,846	151,806
1986	34,429	4,736	696	39,861	43,204	79,508	23,526	146,238
1988	34,153	4,915	700	39,768	42,936	84,537	28,021	155,494

Source: Metro Cordon Count Program

Table A2
Metro Cordon Count Program Vehicle and Passenger Counts
P.M. Peak Period (3:30 to 6:30 p.m.)

	Vehicles				Passengers			
	Autos	Trucks	Transit	Total	Autos	Transit	GO Rail	Total
Central Area Cordon								
1975	88,716	7,728	1,035	97,479	120,837	157,485	9,400	287,722
1977	88,598	8,671	1,041	98,310	121,519	161,138	12,556	295,213
1979	93,652	9,980	968	104,600	130,783	168,346	15,870	314,999
1981	89,421	9,780	1,007	100,208	118,640	178,505	19,368	316,513
1983	91,394	9,658	1,013	102,065	121,595	178,786	19,326	319,707
1985	94,825	10,808	992	106,625	124,195	176,500	22,532	323,227
1986	89,917	9,955	1,030	100,902	120,424	171,644	22,371	314,439
1987	91,682	12,654	927	105,263	118,378	181,327	24,898	324,603
1988	97,861	11,154	925	109,940	126,379	186,011	26,124	338,514
Extended Core Cordon								
1985	72,596	8,565	781	81,942	93,992	87,488	22,532	204,012
1986	70,605	8,692	770	80,067	91,722	82,185	22,371	196,278
1987	69,521	9,975	758	80,254	89,722	81,281	24,898	195,901
1988	69,615	9,449	814	79,878	88,356	85,474	26,124	199,954
Downtown Cordon								
1975	57,818	4,524	1,264	63,606	80,362	183,759	8,915	273,036
1977	61,752	4,676	1,225	67,653	85,267	168,963	12,556	266,786
1979	61,298	5,328	1,192	67,818	83,735	170,262	15,570	269,567
1981	60,073	5,688	1,089	66,850	81,266	188,101	19,368	288,735
1982	61,246	5,555	1,109	67,910	82,588	199,392	19,980	301,960
1984	65,713	5,795	1,164	72,672	87,828	185,269	21,670	294,767
1986	64,851	6,583	1,086	72,520	85,604	184,835	22,371	292,810
1988	63,223	7,151	1,012	71,386	82,027	183,178	26,124	291,329
Downtown Core Cordon								
1975	31,174	2,631	924	34,729	44,021	72,675	8,915	125,611
1977	32,738	2,629	931	36,298	45,884	83,378	12,556	141,818
1979	34,167	3,105	883	38,155	47,187	73,885	15,570	136,642
1981	33,205	3,170	735	37,110	45,085	86,522	19,368	150,975
1982	34,275	3,029	756	38,060	45,853	85,072	19,980	150,905
1984	37,306	3,441	823	41,570	50,151	82,052	21,670	153,873
1986	36,674	3,944	762	41,380	48,198	81,211	22,371	151,780
1988	36,384	4,170	666	41,220	47,224	83,763	26,124	157,111

Source: Metro Cordon Count Program